Exhibit B-1

SunTrust Robinson Humphrey

Miller Energy Resources

Higher Production Path Though Lawsuit Still an Overhang

Remain a bit cautious despite a number of pieces falling into place. Miller announced further capital raises and the dismissal of the shareholder derivative lawsuit. While we continue to assign significant value for the asset base, we will wait for an outcome of the class action suit before making a new decision on our rating. In the meantime, we have slightly increased our F2012/C2013 cash flow estimates to $0.76/$1.50 ($0.74/$1.47 previously).
Deck change rewards more liquids levered companies. Though the most recent commodity price volatility has favored natural gas prices, the end of the quarter update boosted our 4Q12/2013 oil prices by 11%/8% and our 4Q12/2013 natural gas prices by 1%/2%. Our deck estimates remain NYMEX strip driven with a slight upward geopolitical fear bias.
Numerous drilling opportunities lie ahead in the Cook Inlet for Miller.

- **Offshore (oil) –** Miller has started drilling its first of five possible Osprey reworks (100-600 Bbls/day possible per well). After the reworks, the company could have up to 13 grassroots projects (average IP for new wells has historically been over 1,000 Bbls/day).
- **Onshore** – Miller has started drilling Stingray, Olsen, and Otter as well as other attractive gas wells (around 10 Mmcf/day potential).

Well on the way to sizable production ramp. Given Miller's two rigs currently working, incremental production should be on the horizon. However, it continues to be imperative that the company pushes production toward 2,000-3,000 Boepd quickly in order to eliminate much of the current 18% debt and 10.75% preferred shares.
Litigation overhang. Despite the shareholder derivative lawsuit recently being dismissed and insurance potentially covering most future litigation costs, the ongoing class action lawsuit is likely to cause a cloud over the stock.

FYE – Apr.	2012A	2013E		2014E	
EPS	**Current**	**Previous**	**Current**	**Previous**	**Current**
1Q	-$0.10A	-$0.15E	-$0.14A	$0.14E	$0.17E
2Q	-$0.15A	-$0.09E	-$0.08E	$0.19E	$0.21E
3Q	-$0.10A	$0.04E	$0.07E	$0.23E	$0.24E
4Q	-$0.16A	$0.09E	$0.16E	$0.26E	$0.26E
Year	-$0.51A	-$0.12E	$0.00E	$0.79E	$0.87E
P/E	-8.5x		Infinity		5.0x
Mean EPS Estimate	-$0.51		$0.12		$0.82
CFPS	**Current**	**Previous**	**Current**	**Previous**	**Current**
1Q	$0.05A	$0.04E	$0.00A	$0.33E	$0.34E
2Q	-$0.02A	$0.12E	$0.13E	$0.35E	$0.36E
3Q	-$0.05A	$0.26E	$0.26E	$0.39E	$0.38E
4Q	-$0.07A	$0.30E	$0.34E	$0.39E	$0.42E
Year	-$0.08A	$0.74E	$0.76E	$1.47E	$1.50E
P/CFPS	-54.4x		5.7x		2.9x
Mean CFPS	-$0.51		$0.74		$1.47
EV/EBITDA	6.0x		9.2x		2.7x

October 10, 2012

MILL

Price (Oct. 9, 2012)	$4.35
Mkt. Cap. (mil.)	$182.8

Energy - Exploration & Production

Rating:	**Neutral**
Previous:	Neutral
Price Target:	**NA**
Previous:	NA
Risk Rank:	**High**
Previous:	High
Sector Rating:	**Market Weight**

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Market Data:	
52-Week Range	$5.59-$2.49
Shares Out. (mil.)	42.0
Float (mil.)	27.3
Avg. Daily Vol. (000)	296
Dividend/Yield	$0.00/0.0%

Financial Highlights:	
Long-Term Debt (mil.)	$38.5
Debt/Cap.	11.4%
Debt/EBITDA	17.6x
Shareholders' Equity (mil.)	$299.4
Proven Reserves (Bcfe)	63.1
Reserve Mix (% Gas)	8%
Reserve Life (Years)	30
NAV ($/Share)	$4.86

Convertible	No
Key Indices	

EPS Est. Changes	2013	2014
08/06/12	-$0.12	$0.79
07/09/12	-$0.36	$0.23
04/24/12	-$0.12	$0.55

PLEASE SEE IMPORTANT DISCLOSURES STARTING ON PAGE 5

Comments

FIGURE 1: MILLER ENERGY RESOURCES, INC. – OVERALL ASSET PORTFOLIO

Source: Company Documents and SunTrust Robinson-Humphrey

Our current earnings per share estimates for Miller are ($0.32) for *calendar* 2012 and $0.77 for *calendar* 2013 ($0.00 for fiscal 2013) and our cash flow per share (CFPS) estimates are $0.35 for *calendar* 2012 and $1.42 for *calendar* 2013 ($0.76 for fiscal 2013).

We calculate that the company is currently trading at a 2.7x multiple based on our $0.77 per share calendar 2013 cash flow estimate, moderately lower than its peer group (trading at 3.3x) on a price to 2013 cash flow per share basis. However, we reiterate our **Neutral** rating until we receive better clarity on the company's production ramp and legal situation over the next several quarters.

RISK FACTORS

- A decline in oil and/or natural gas prices may adversely affect the business, financial condition, or results of operations and the ability to meet capital expenditure obligations and financial commitments.
- Reserve and production estimates depend on many assumptions such as commodity prices, resource potential and drilling success rates that may turn out to be inaccurate. Any change in these figures could materially alter our estimates.
- A decline in industry activity in Miller's core areas could adversely affect the company's ability to drill wells and could result in the loss of acreage due to lease expirations.
- Miller's management and strategy are a key component to our forecasts for the company, if any of the key members of the management team were to leave the firm it could impair future prospects of the company.

FIGURE 2: MILLER ENERGY RESOURCES, INC. HISTORICAL AND PROJECTED INCOME STATEMENT

Historical and Forecasted Income Statement	2012 Fiscal Quarterly Results				2013 Fiscal Quarterly Results/Est.			
(amounts in thousands of $, except as noted)	July-11	Oct-11	Jan-12	Apr-12	July-12	Oct-12	Jan-13	Apr-13
Total Production (Mboe)	107.4	111.3	89.2	80.3	101.4	162.1	221.6	256.1
Total Production Per Day (Mboe)	1.193	1.223	0.970	0.864	1.126	1.781	2.408	2.783
% Oil	88.3%	87.7%	84.8%	84.8%	84.9%	86.8%	88.4%	88.0%
Sequential Growth	-17.0%	3.6%	-19.8%	-10.0%	26.2%	59.9%	36.7%	15.6%
Commodity Estimates	$93.52	$81.57	$83.01	$89.54	$81.50	$81.61	$88.69	$88.68
Gas (Henry Hub Spot); $/bbl	$4.38	$4.06	$3.47	$2.52	$2.35	$2.88	$3.20	$3.65
Oil (WTI Cushing Spot); $/mmbtu	$102.47	$89.57	$94.17	$102.91	$93.47	$91.40	$97.80	$97.81
Days in Period	90	91	92	93	90	91	92	92
Income Statement								
Oil & Gas Sales	8,319	8,441	7,944	7,789	7,729	15,338	22,225	26,297
Service and Drilling Revenues	536	764	500	1,109	533	549	565	582
Total Revenues	**$8,856**	**$9,205**	**$8,443**	**$8,898**	**$8,262**	**$15,887**	**$22,790**	**$26,880**
Lease Operations	3,796	4,375	3,770	2,920	3,974	3,242	3,323	3,585
Service and Drilling Costs	227	146	296	257	548	469	609	669
DD&A	3,830	4,318	2,826	3,408	3,125	4,862	4,985	5,122
General & Administrative	5,772	7,949	6,729	8,627	5,330	8,914	8,862	7,682
Operating Income	**($4,770)**	**($7,726)**	**($5,841)**	**($6,749)**	**($4,744)**	**($1,600)**	**$5,010**	**$9,822**
Interest	(308)	(879)	(813)	163	(131)	(1,800)	(1,800)	(1,800)
Other Income (Net)	892	29	(334)	(3,361)	(334)	(123)	(122)	(121)
Net Income Before Taxes	**($4,185)**	**($8,577)**	**($6,987)**	**($9,946)**	**($5,209)**	**($3,523)**	**$3,088**	**$7,901**
Taxes	247	2,586	2,690	3,481	(1,121)	0	0	0
Net Earnings Excl. Special Items	**($3,938)**	**($5,990)**	**($4,297)**	**($6,465)**	**($6,330)**	**($3,523)**	**$3,088**	**$7,901**
Other Special Items, net of tax	3,756	1,506	0	0	8,941	0	0	0
Reported Earnings	**($183)**	**($4,484)**	**($6,554)**	**($6,465)**	**$2,611**	**($3,523)**	**$3,088**	**$7,901**
EBITDA	**$1,559**	**$68**	**$641**	**$1,101**	**$456**	**$7,719**	**$14,427**	**$18,785**
Basic Operating EPS	($0.10)	($0.15)	($0.10)	($0.16)	($0.15)	($0.08)	$0.07	$0.17
Basic Reported EPS	($0.00)	($0.11)	($0.16)	($0.16)	$0.06	($0.08)	$0.07	$0.17
Diluted Operating EPS	**($0.10)**	**($0.15)**	**($0.10)**	**($0.16)**	**($0.14)**	**($0.08)**	**$0.07**	**$0.16**
Diluted Reported EPS	($0.00)	($0.11)	($0.16)	($0.16)	$0.06	($0.08)	$0.07	$0.16
Basic Shares Outstanding	40,340	40,908	40,937	40,811	41,426	43,083	44,806	46,598
Diluted Shares Outstanding	40,340	40,908	40,937	40,811	43,807	45,560	47,382	49,277
Margin Analysis								
Gross Margin	54%	48%	53%	63%	49%	79%	85%	86%
Operating Margin	-54%	-84%	-69%	-76%	-57%	-10%	22%	37%
Net Margin	-44%	-65%	-51%	-73%	-77%	-22%	14%	29%
EBITDA Margin	18%	1%	8%	12%	6%	49%	63%	70%
Cash Flow From Operations								
Operating Net Income	**($3,938)**	**($5,990)**	**($4,297)**	**($6,465)**	**($6,330)**	**($3,523)**	**$3,088**	**$7,901**
DD&A	3,830	4,318	2,826	3,408	3,125	4,862	4,985	5,122
Deferred Income Taxes	(247)	(2,586)	(4,075)	(4,098)	1,121	0	0	0
Stock Based Compensation	2,498	3,476	3,656	4,442	2,075	4,457	4,431	3,841
Cash Flow From Operations	**$2,143**	**($783)**	**($1,890)**	**($2,713)**	**($9)**	**$5,796**	**$12,505**	**$16,864**
				(84)	(160)	758	1,900	3,989
Cash Flow/Share	**$0.05**	**($0.02)**	**($0.05)**	**($0.07)**	**($0.00)**	**$0.13**	**$0.26**	**$0.34**
Capex	**$19,794**	**$5,922**	**$8,143**	**$108**	**$9,325**	**$16,500**	**$16,500**	**$16,500**
Asset Sales	**$0**	**$0**	**$0**	**$0**	**$2,000**	**$0**	**$0**	**$0**
Free Cash Flow	**($17,651)**	**($6,705)**	**($10,034)**	**($2,820)**	**($7,334)**	**($10,704)**	**($3,995)**	**$364**
Oil&NGL Production (MBbls):								
% Hedged	0%	0%	0%	38%	0%	0%	0%	0%
Average Oil Price	$100.64	$84.98	$108.26	$114.23	$106.97	$103.55	$108.74	$111.81
Gas Production (MMcf):								
% Hedged	0%	0%	0%	0%	0%	0%	0%	0%
Average Gas Price	$3.11	$4.54	$3.11	$4.00	$5.00	$6.00	$6.00	$6.00

Source: Company reports and SunTrust Robinson Humphrey estimates

FIGURE 3: MILLER ENERGY RESOURCES, INC. HISTORICAL AND PROJECTED INCOME STATEMENT

Historical and Forecasted Income Statement (amounts in thousands of $, except as noted)	F2012	F2013-E	F2014-E	Cal Yr 2012-E	Cal Yr 2013-E
Total Production (Mboe)	388.2	741.1	1,244.0	565.3	1,136.3
Total Production Per Day (Mboe)	1.061	2.030	3.408	1.545	3.113
% Oil	86.4%	87.0%	84.2%	86.2%	85.6%
Sequential Growth	1.4%	90.9%	67.9%	29.3%	101.0%
Commodity Estimates	$86.91	$85.12	$86.11	$85.34	$87.11
Gas (Henry Hub Spot): $/bbl	$3.61	$3.02	$3.79	$2.74	$3.73
Oil (WTI Cushing Spot): $/mmbtu	$97.28	$95.12	$97.97	$96.39	$98.00
Days in Period	366	365	365	366	365
Income Statement					
Oil & Gas Sales	32,493	71,589	121,221	53,080	112,922
Service and Drilling Revenues	2,909	2,230	2,510	2,756	2,437
Total Revenues	**$35,402**	**$73,819**	**$123,730**	**$55,837**	**$115,359**
Lease Operations	14,861	14,124	16,895	13,459	15,751
Service and Drilling Costs	926	2,294	2,798	1,883	2,739
DD&A	14,382	18,094	19,344	16,380	19,009
General & Administrative	29,077	30,789	29,079	31,733	29,486
Operating Income	**($25,085)**	**$8,488**	**$55,614**	**($8,083)**	**$48,374**
Interest	(1,837)	(5,531)	(7,200)	(3,568)	(7,200)
Other Income (Net)	(2,774)	(700)	(490)	(3,940)	(490)
Net Income Before Taxes	**($29,696)**	**$2,257**	**$47,924**	**($15,590)**	**$40,684**
Taxes	9,005	(1,121)	0	2,360	0
Net Earnings Excl. Special Items	**($20,691)**	**$1,136**	**$47,924**	**($13,230)**	**$40,684**
Other Special Items, net of tax	5,262	8,941	0	8,941	0
Reported Earnings	**($17,686)**	**$10,077**	**$47,924**	**($4,289)**	**$40,684**
EBITDA	**$3,369**	**$41,387**	**$89,497**	**$23,703**	**$82,125**
Basic Operating EPS	($0.51)	$0.00	$0.93	($0.32)	$0.82
Basic Reported EPS	($0.43)	$0.22	$0.93	($0.11)	$0.82
Diluted Operating EPS	**($0.51)**	**$0.00**	**$0.87**	**($0.32)**	**$0.77**
Diluted Reported EPS	($0.43)	$0.21	$0.87	($0.11)	$0.77
Basic Shares Outstanding	40.749	43.978	51.448	42.531	49.469
Diluted Shares Outstanding	40.749	46.507	54.406	44.390	52.314
Margin Analysis					
Gross Margin	54.4%	74.7%	86.1%	68.8%	86.1%
Operating Margin	-70.7%	-2.2%	44.7%	-30.3%	41.7%
Net Margin	-58.3%	-14.0%	38.4%	-39.5%	35.0%
EBITDA Margin	9.6%	46.8%	72.2%	32.4%	71.1%
Cash Flow From Operations					
Operating Net Income	**($20,691)**	**$1,136**	**$47,924**	**($13,230)**	**$40,684**
DD&A	14,382	18,094	19,344	16,380	19,009
Deferred Income Taxes	(11,006)	1,121	0	(2,977)	0
Stock Based Compensation	14,072	14,804	14,539	15,405	14,743
Cash Flow From Operations	**($3,243)**	**$35,156**	**$81,807**	**$15,579**	**$74,435**
Cash Flow/Share	**($0.08)**	**$0.76**	**$1.50**	**$0.35**	**$1.42**
Capex	**$33,967**	**$58,825**	**$66,000**	**$42,433**	**$66,000**
Asset Sales	**$0**	**$2,000**	**$0**	**$2,000**	**$0**
Free Cash Flow	**($37,210)**	**($21,669)**	**$15,807**	**($24,854)**	**$8,435**
Oil&NGL Production (MBbls):					
% Hedged	10%	0%	0%	10%	0%
Average Oil Price	$100.56	$108.45	$109.11	$107.70	$110.17
Gas Production (MMcf):					
% Hedged	0%	0%	0%	0%	0%
Average Gas Price	$3.69	$5.84	$6.00	$5.47	$6.00

Source: Company reports and SunTrust Robinson Humphrey estimates

Company Description

Miller Energy Resources, Inc. engages in the exploration, production, and drilling of oil and natural gas resources in the United States. It primarily holds interests in approximately 600,000 lease acres located in the Cook Inlet area of Alaska; and 54,500 acres of lease holdings located in the Appalachian Basin, Tennessee. The company was formerly known as Miller Petroleum, Inc. and changed its name to Miller Energy Resources, Inc. on April 12, 2011. It is headquartered in Huntsville, Tennessee.

Analyst Certification

By issuing this research report, each SunTrust Robinson Humphrey analyst named in this report hereby certifies that the recommendations and opinions expressed accurately reflect the research analyst's personal views about any and all of the subject securities or companies discussed herein and no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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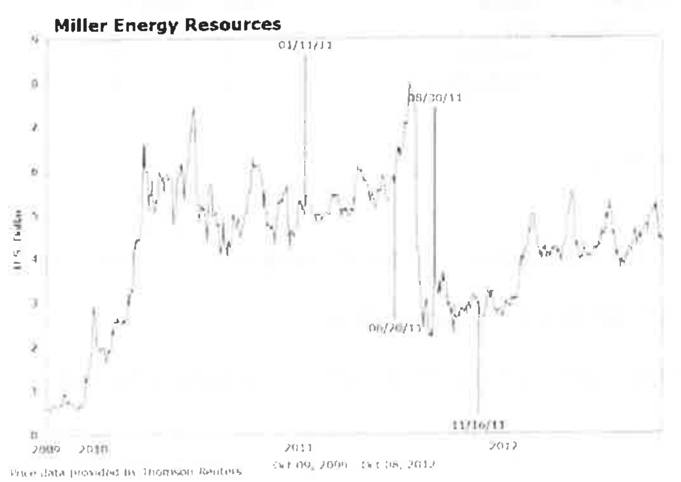
- An affiliate of SunTrust Robinson Humphrey, Inc. has received compensation for products or services other than investment banking services from the following companies within the last 12 months: Miller Energy Resources

Analyst compensation is based upon quality of analysis, communication skills, stock price performance and the overall revenue and profitability of the firm, including investment banking revenue.

As a matter of policy and practice, the firm prohibits the offering of favorable research or a specific research rating as consideration or inducement for the receipt of business or compensation. In addition, analysts and associated persons preparing research reports are prohibited from owning securities in the subject companies.



Rating And Price Target History (MILL)			
Date	Rating	Target	Closing
01/11/2011	Buy	$7.00	$5.13
06/20/2011		$8.50	$5.87
08/30/2011		$8.00	$3.60
11/16/2011	Neutral		$2.98

Definition of Ratings

SunTrust Robinson Humphrey assigns one of three ratings to stocks covered by our Research Department: **Buy, Neutral, or Reduce.**

In addition, we assign a risk rank to each stock based on a combination of fundamental and stock volatility factors:

Low = Low stock price volatility reflected by high predictability of financial results.
Moderate = Moderate stock price volatility reflected by medium predictability of financial results.
High = High stock price volatility reflected by inconsistent predictability of financial results.
Speculative = Greatest stock price volatility reflected by low predictability of financial results.
Venture = Recommended only for maximum risk oriented and well-diversified portfolios.

Our ratings are a function of the risk ranking (higher return expectations for higher risk) and the absolute expected total return (price appreciation plus dividends) that result in our estimated 12-month price target. Please refer to the grid below for additional detail.

Performance Definition Scale

Total return (capital gain/loss + dividends) expected over the next 12 months

Rating	Low Risk	Moderate Risk	High Risk	Speculative
Buy	Over 10%	Over 15%	Over 20%	Over 25%
Neutral	-5% to 10%	-5% to 15%	-10% to 20%	-10% to 25%
Reduce	-5% or Worse	-5% or Worse	-10% or Worse	-10% or Worse

SunTrust Robinson Humphrey assigns one of three ratings to industries/sectors covered by our Research Department: Overweight, Market Weight or Underweight. These terms are relative to the appropriate S&P 500 industries/sectors.

Deviations from expected price targets due to price movement and/or volatility will be reviewed by the analyst and research management on a timely basis. Price targets are only required on Buy rated stocks; the analyst may choose to have price targets on Neutral or Reduce rated stocks, but it is not required. Action taken by an investor should be based upon their personal investment objectives and risk tolerance compared to a stock's expected performance and risk ranking.

SunTrust Robinson Humphrey ratings distribution as of 10/09/2012:

Coverage Universe			Investment Banking Clients Past 12 months		
Rating	**Count**	**Percent**	**Rating**	**Count**	**Percent***
Buy	153	44	Buy	39	11
Hold/Neutral	198	56	Hold/Neutral	27	8
Sell/Reduce	0	0	Sell/Reduce	0	0

*Percentage of Investment Banking clients in Coverage Universe by rating

Financial Definitions

Average Daily Volume = The cumulative number of shares traded over 200 days ÷ number of trading sessions in that period
Debt/Cap. = Debt ÷ shareholders' equity + debt
Debt/EBITDA = Long-term debt ÷ earnings before interest, tax, depreciation, and amortization
Dividend/Yield = Annual dividend per share ÷ share price
EV/EBIDTA = (Preferred stock + common stock + long-term debt - cash) ÷ earnings before interest, tax, depreciation, and amortization
Float = Number of shares outstanding available for public trading
NAV = Going concern value based on historical transactions
Long-Term Debt = Loans and financial obligations extending beyond one year
Mean CFPS = Thomson/Reuters mean cash flow per share estimate
P/CFPS = price ÷ cash flow per share before working capital
Proven Reserves = An estimated quantity of all hydrocarbons, which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions
Reserve Life = Proven reserves divided by production
Reserve Mix = % of proven reserves comprised of natural gas
Shareholders' Equity = Share capital + retained earnings - treasury shares

Key Indices:

DJIA – Dow Jones
RUI – Russell 1000
RUT – Russell 2000
MID – S&P MidCap 400
SPX – S&P 500
SML – S&P SmallCap 600

Other Disclosures

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ADDITIONAL INFORMATION IS AVAILABLE at our website, www.suntrustrh.com, or by writing to:
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FLASH NOTE

BREAN CAPITAL, LLC

Miller Energy Resources Inc. (MILL, $3.88, Hold, NA Target Price)
February 8, 2013

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Amended Credit Facility Avoids Default; Remain Cautious on Miller Energy

Investment Summary

Miller Energy Resources and lender Apollo Investment Corporation agreed to amend their credit facility, waiving any events of default as of February 7, 2013. It was no secret that Miller Energy Resources was not in compliance with covenants under its credit facility. The company and its lender agreed to waiving any events of default as of February 7, 2013. Under the amendment, the initial testing date for the loan covenants is postponed to April 30, 2013 from January 31, 2013. The amendment also modifies certain covenants, and now includes Tennessee production under the minimum production covenant. The amendment also imposes a fee of $2 million if Miller fails to request a draw of the remaining $10 million available by June 29, 2013. In addition, the company is required to raise an additional $15 million in preferred equity to tap the additional funds. We view the amendment as negative for common shareholders because increased preferred dividends will reduce earnings per share. We maintain our Hold rating on MILL.

EXHIBIT
PENGAD 800-631-6989
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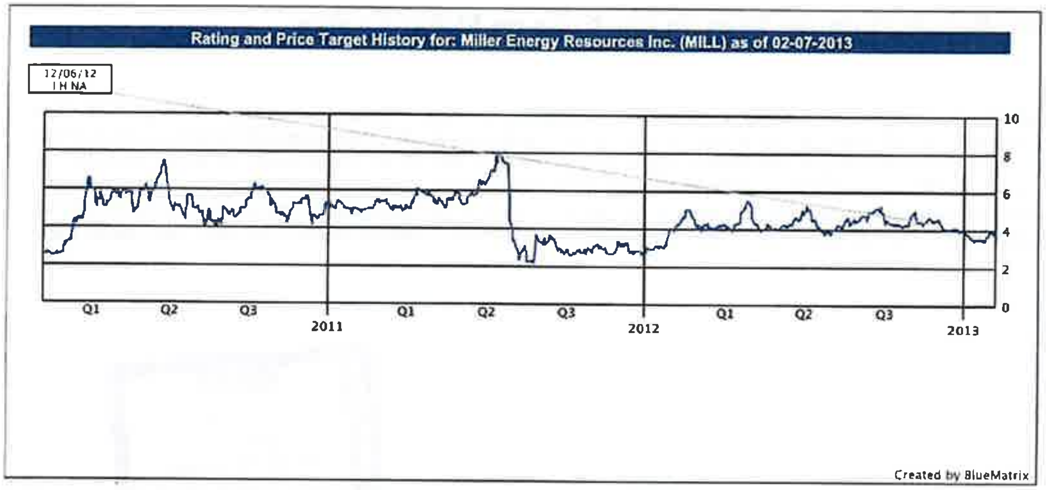
6/9/18 AG

Risks

There is no guarantee that the stocks discussed in this report will reach our forecasts. Risks that could prevent a company from reaching our estimates include the following: (1) volatile commodity prices; (2) overly aggressive assumptions; (3) competition; (4) weather; (5) reserve information; (6) government and environmental regulation; and (7) overall market weakness.

Important Disclosures

Ratings and Target Price History



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Brean Capital, LLC Stock Rating System

Buy - Expected to appreciate by at least 10% within the next 12 months.

Hold - Fully valued, not expected to appreciate or decline materially within the next 12 months.

Sell - Expected to decline by at least 10% within the next 12 months.

			IB Serv./ Past 12Mos.	
Rating Category	**Count**	**Percent**	**Count**	**Percent**
BUY	144	66.98%	87	60.42%
HOLD	65	30.23%	29	44.62%
SELL	6	2.79%	5	83.33%
NOT RATED				

Note: Stock price volatility may cause temporary non-alignment of some ratings with some target prices.

Analyst Certification

I, Jeff Connolly, hereby certify that the views expressed in this research report accurately reflect our personal views about any and all of the subject securities or issuers referred to in this document. The analyst and associate analyst further certify that they have not received and will not be receiving direct or indirect compensation in exchange for expressing the recommendation contained in this publication.

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Additional information is available upon request.

EXHIBIT
62
6/4/14 AG

PENGAD 800-631-6989

SunTrust Robinson Humphrey

Miller Energy Resources

July 17, 2013

MILL

Price (Jul. 16, 2013)	$4.09
Mkt. Cap. (mil.)	$181.0

Energy - Exploration & Production

Rating:	Neutral
Previous	Neutral
Price Target:	$4.50
Previous	$4.00
Risk Rank:	High
Previous	High
Sector Rating:	Market Weight

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Increasing Price Target Though Remain Neutral

Still cautious though possible upside on the horizon. Though Miller's F4Q13 results were less than stellar, the company recently completed RU-2A now producing over 1,300 Boe/d. While there are multiple potential solid wells ahead that cause us to slightly raise our estimates and price target, we remain Neutral until a bit more successful operations is demonstrated. We increase our price target from $4.00 to $4.50, derived from our C2014 CFPS estimate of $0.74 applied to a 6.1x price target multiple (7.9x peer group average).

Offshore development offers attractive opportunity. The RU-2A offers an attractive ~3 month payback with ~$10mm in revenue per quarter and ~$8mm in cash flow; this is possible for further wells at the Osprey platform. The company has numerous rework and new well opportunities on the platform such as RU-1A, RU-5, and RU-4 that should each flow 100-600 bo/d. The Osprey has 14 remaining slots with an option for 7 more, which makes for high likelihood of additional wells once inventory is completed.

Onshore wells could generate solid gas production. Miller has an onshore rig at the Olsen Creek #1 well that should IP in the next couple months. This well is the first of a number of wells that include various in Otter field all that couple produce over 3+ bcf each. Various other onshore wells such as the Sword #1 at the West McArthur River Unit have even a higher potential with the possibly of a number of incremental PUDs though high cost raises the risk.

Strong well could quell liquidity concerns. Multiple issuances of preferred stock (raised $52.6mm gross) and a relatively expensive credit facility with Apollo have removed any near term funding concerns, though upcoming cash flow from wells will be needed in order to rule out further preferred offerings.

Litigation overhang. A class action lawsuit continues to hang over Miller despite little to no substance to the claim.

FYE – Apr.	2013A	2014E		2015	
EPS	Current	Previous	Current	Previous	Current
1Q	-$0.20A	-$0.10E	-$0.13E	NA	NA
2Q	-$0.10A	-$0.10E	-$0.13E	NA	NA
3Q	-$0.13A	-$0.09E	-$0.13E	NA	NA
4Q	-$0.27A	-$0.07E	-$0.10E	NA	NA
Year	-$0.70A	-$0.35E	-$0.49E	NA	NA
P/E	-5.8x		-8.3x		NA
Mean EPS Estimate	-$0.38		$0.13		NA
CFPS	Current	Previous	Current	Previous	Current
1Q	$0.01A	$0.05E	$0.02E	NA	NA
2Q	$0.01A	$0.07E	$0.04E	NA	NA
3Q	-$0.05A	$0.08E	$0.06E	NA	NA
4Q	-$0.16A	$0.12E	$0.10E	NA	NA
Year	-$0.20A	$0.33E	$0.22E	NA	NA
P/CFPS	-20.5x		18.6x		NA
Mean CFPS	$0.00		$0.69		NA
EV/EBITDA	9.2x		8.6x		NA

Market Data:

52-Week Range	$5.26-$3.38
Shares Out. (mil.)	44.2
Float (mil.)	27.3
Avg. Daily Vol. (000)	191
Dividend/Yield	$0.00/0.0%

Financial Highlights:

Long-Term Debt (mil.)	$51.5
Debt/Cap.	11.4%
Debt/EBITDA	49.3x
Shareholders' Equity (mil.)	$288.8
Proven Reserves (Bcfe)	63.1
Reserve Mix (% Gas)	8%
Reserve Life (Years)	30
NAV ($/Share)	$4.86
Convertible	No
Key Indices	

EPS Est. Changes	2013	2014
06/11/13	-$0.52	-$0.35
10/10/12	$0.00	$0.87
08/06/12	-$0.12	$0.79

PLEASE SEE IMPORTANT DISCLOSURES STARTING ON PAGE 5

Comments

FIGURE 1: MILLER ENERGY RESOURCES, INC. – OVERALL ASSET PORTFOLIO

95%

Cook Inlet, Alaska
Acreage: 753,466*
Potential Drilling Targets: 200+

5%

The Southern Appalachian Basin
Acreage: 49,260*
Potential Drilling Targets: 100+

*Gross: includes leases and exploration licenses

Source: Company Documents and SunTrust Robinson Humphrey

Our current earnings per share estimates for Miller are -$0.18 for *calendar* 2014 (-$0.49 for fiscal 2014) and our cash flow per share (CFPS) estimates are $0.74 for *calendar* 2014 ($0.22 for fiscal 2014).

We calculate that the company is currently trading at a 5.6 multiple based on our $0.74 per share calendar 2014 cash flow estimate, lower than its peer group (trading at 7.9x) on a price to 2014 cash flow per share basis. However, we reiterate our **Neutral** rating until we receive better clarity on the company's production ramp and legal situation over the next several quarters though we are increasing our price target to $4.50 from $4, based on a comparable peer group multiple, discounted for operational risk and unknowns, of 6.1x our 2014 CFPS estimate.

RISK FACTORS

- A decline in oil and/or natural gas prices may adversely affect the business, financial condition, or results of operations and the ability to meet capital expenditure obligations and financial commitments.
- Reserve and production estimates depend on many assumptions such as commodity prices, resource potential and drilling success rates that may turn out to be inaccurate. Any change in these figures could materially alter our estimates.
- A decline in industry activity in Miller's core areas could adversely affect the company's ability to drill wells and could result in the loss of acreage due to lease expirations.
- Miller's management and strategy are a key component to our forecasts for the company, if any of the key members of the management team were to leave the firm it could impair future prospects of the company.
- Our estimates could prove to be conservative should the company be able to bring on additional wells above our forecast, increasing revenues and improving its overall financial position.

FIGURE 2: MILLER ENERGY RESOURCES, INC. – PRICE TARGET

Cash Flow Analysis (000s except per share amounts)	
Estimates	**C2014**
Oil Price	$104.93
Oil Volume	761
Gas Price	$6.00
Gas Volume	526
Oil & Gas Revenues	$82,996
Service and Drilling Revenues	2,133
Other Revenues	0
Total Revenues	**$85,129**
Lease Operations	17,928
Service and Drilling Costs	5,260
DD&A	33,944
General & Administrative	31,671
Total Direct Costs	**$88,804**
Net Operating Income	**($3,675)**
Interest Expense	(5,180)
Other Income (Net)	(484)
Net Income Before Taxes	**($9,339)**
Taxes	0
Operating Net Earnings	**($9,339)**
Add DD&A	33,944
Add Deferred Taxes	0
Add Stock Based Compensation	15,835
Cash Flow	**$40,440**
Diluted Shares Outstanding	54,948
CFPS	$0.74
Peer Group P/CF	6.1x
Cash Flow Valuation	**$4.50**

Source: Company reports and SunTrust Robinson Humphrey estimates

FIGURE 3: MILLER ENERGY RESOURCES, INC. HISTORICAL AND PROJECTED INCOME STATEMENT

Historical and Forecasted Income Statement	2013 Fiscal Quarterly Results				2014 Fiscal Quarterly Results/Est.				Fiscal Yearly			
(amounts in thousands of $, except as noted)	July-12	Oct-12	Jan-13	Apr-13	July-13E	Oct-13E	Jan-14E	Apr-14E	F2011	F2012	F2013-E	F2014-E
Total Production (Mboe)	94.0	78.1	82.3	95.0	109.6	126.6	146.1	168.7	382.9	376.0	349.5	551.1
Total Production Per Day (Mboe)	1.045	0.859	0.895	1.033	1.218	1.391	1.588	1.834	1.049	1.027	0.958	1.510
% Oil	92.1%	91.9%	92.0%	91.7%	91.4%	91.0%	90.7%	90.3%	87.6%	90.0%	91.9%	90.9%
Sequential Growth	26.2%	-16.9%	5.4%	15.4%	15.4%	15.4%	15.4%	15.5%	438.7%	-1.8%	-7.0%	57.7%
Commodity Estimates	$87.16	$85.41	$82.85	$88.31	$85.91	$84.86	$84.09	$85.12	$76.73	$89.81	$85.93	$84.99
Gas (Henry Hub Spot); $/bbl	$2.35	$2.88	$3.54	$3.56	$4.20	$4.35	$4.43	$4.55	$4.19	$3.61	$3.08	$4.38
Oil (WTI Cushing Spot); $/mmbtu	$93.47	$91.40	$88.18	$94.37	$91.64	$90.64	$90.00	$91.32	$83.49	$97.28	$91.85	$90.80
Days in Period	90	91	92	92	90	91	92	92	365	366	365	365
Income Statement												
Oil & Gas Sales	7,729	8,056	6,853	7,277	11,025	12,581	14,403	16,789	20,525	32,493	29,915	54,798
Service and Drilling Revenues	533	2,754	1,146	453	467	481	495	510	2,317	2,909	4,886	1,952
Total Revenues	$8,262	$10,810	$7,999	$7,730	$11,492	$13,061	$14,898	$17,299	$22,842	$35,402	$34,801	$56,750
Lease Operations	3,974	4,871	4,118	11,735	3,638	4,208	4,616	5,063	9,703	14,861	24,698	17,725
Service and Drilling Costs	548	2,485	1,051	105	1,096	1,266	1,461	1,181	808	926	4,189	5,004
Exploration and other	29	28	471	930								
DD&A	3,409	3,307	3,341	4,013	4,386	5,063	5,845	6,749	12,859	14,382	14,070	22,042
General & Administrative	5,330	6,208	5,518	5,679	5,482	6,012	6,504	6,852	14,555	29,077	22,735	24,940
Operating Income	($5,028)	($6,059)	($6,500)	($14,732)	($3,311)	($3,487)	($3,617)	($2,546)	($15,082)	($25,085)	($32,349)	($12,962)
Interest	(131)	(1,537)	(1,117)	(1,491)	(2,590)	(2,590)	(2,590)	(2,590)	(444)	(1,837)	(4,276)	(10,361)
Other Income (Net)	(50)	(300)	(797)	2,334	(124)	(123)	(122)	(121)	(537)	(2,774)	1,187	(490)
Net Income Before Taxes	($5,209)	($7,926)	($8,414)	($13,889)	($6,025)	($6,201)	($6,329)	($5,257)	($16,064)	($29,696)	($35,438)	($23,812)
Taxes	(1,121)	3,741	3,567	3,596	0	0	0	0	7,541	9,005	9,783	0
Net Earnings Excl Pfd and Special Item	($6,330)	($4,185)	($4,847)	($10,293)	($6,025)	($6,201)	($6,329)	($5,257)	($8,523)	($20,691)	($25,655)	($23,812)
Other Special Items, net of tax	6,519	(2,045)	(495)	3,298	0	0	0	0	(385)	5,262	7,277	0
Reported Earnings	($2,233)	($6,230)	($6,164)	($8,826)	($6,025)	($6,201)	($6,329)	($5,257)	($6,269)	($17,686)	($23,453)	($23,812)
EBITDA	$456	$2,196	($400)	($7,880)	$3,816	$4,581	$5,525	$7,629	$2,293	$3,369	($5,628)	$21,551
Basic Operating EPS	($0.15)	($0.10)	($0.11)	($0.24)	($0.14)	($0.13)	($0.13)	($0.11)	($0.25)	($0.51)	($0.60)	($0.51)
Basic Reported EPS	($0.05)	($0.15)	($0.14)	($0.21)	($0.14)	($0.13)	($0.13)	($0.11)	($0.18)	($0.43)	($0.55)	($0.51)
Diluted Operating EPS	($0.20)	($0.10)	($0.13)	($0.27)	($0.13)	($0.13)	($0.13)	($0.10)	($0.25)	($0.51)	($0.70)	($0.49)
Diluted Reported EPS	($0.05)	($0.15)	($0.14)	($0.20)	($0.13)	($0.13)	($0.13)	($0.10)	($0.18)	($0.43)	($0.54)	($0.49)
Basic Shares Outstanding	41,426	42,542	44,244	42,530	44,231	46,000	47,840	49,754	35,259	40,749	42,685	46,957
Diluted Shares Outstanding	43,807	42,542	44,244	44,244	46,014	47,854	49,768	51,759	35,259	40,749	43,709	48,849
Margin Analysis												
Gross Margin	49%	40%	40%	-61%	65%	67%	68%	70%	53.0%	54.4%	16.7%	67.4%
Operating Margin	-61%	-56%	-81%	-191%	-29%	-27%	-24%	-15%	-68.3%	-70.7%	-97.3%	-23.6%
Net Margin	-77%	-39%	-61%	-133%	-52%	-47%	-42%	-30%	-40.1%	-58.3%	-77.3%	-43.2%
EBITDA Margin	6%	20%	-5%	-102%	33%	35%	37%	44%	7.7%	9.6%	-20.3%	37.4%
Cash Flow From Operations												
Operating Net Income	($6,330)	($4,185)	($4,847)	($10,293)	($6,025)	($6,201)	($6,329)	($5,257)	($8,523)	($20,691)	($25,655)	($23,812)
DD&A	3,409	3,307	3,341	4,013	4,386	5,063	5,845	6,749	12,859	14,382	14,070	22,042
Deferred Income Taxes	1,121	(3,741)	(3,567)	(3,596)	0	0	0	0	(6,281)	(11,006)	(9,783)	0
Stock Based Compensation	2,075	4,978	2,759	2,840	2,741	3,006	3,297	3,426	4,516	14,072	12,652	12,470
Cash Flow From Operations	$275	$359	($2,314)	($7,037)	$1,102	$1,868	$2,812	$4,917	$2,572	($3,243)	($8,717)	$10,700
	(125)	114	(596)	(1,495)	(1,025)	(1,294)	(706)	248				
Cash Flow/Share	$0.01	$0.01	($0.05)	($0.16)	$0.02	$0.04	$0.06	$0.10	$0.07	($0.08)	($0.20)	$0.22
Capex	$9,325	$9,622	$16,500	$16,500	$16,500	$16,500	$16,500	$16,500	($13,158)	$33,967	$51,947	$66,000
Asset Sales	$2,000	$0	$0	$0	$0	$0	$0	$0	$20	$0	$2,000	$0
Free Cash Flow	($7,050)	($9,263)	($18,814)	($23,537)	($15,398)	($14,632)	($13,688)	($11,583)	$15,750	($37,210)	($58,664)	($55,300)

Source: Company reports and SunTrust Robinson Humphrey estimates

Company Description

Miller Energy Resources, Inc. engages in the exploration, production, and drilling of oil and natural gas resources in the United States. It primarily holds interests in approximately 600,000 lease acres located in the Cook Inlet area of Alaska; and 54,500 acres of lease holdings located in the Appalachian Basin, Tennessee. The company was formerly known as Miller Petroleum, Inc. and changed its name to Miller Energy Resources, Inc. on April 12, 2011. It is headquartered in Huntsville, Tennessee.

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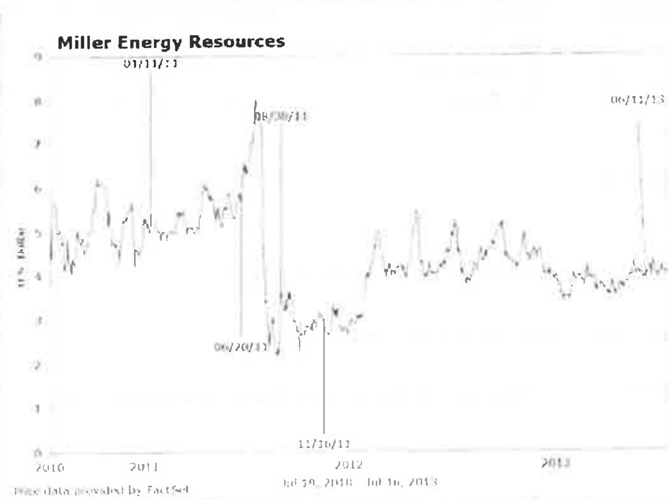

Rating And Price Target History (MILL)			
Date	Rating	Target	Closing
01/11/2011	Buy	$7.00	$5.13
06/20/2011		$8.50	$5.87
08/30/2011		$8.00	$3.60
11/16/2011	Neutral		$2.98
06/11/2013		$4.00	$3.90

Definition of Ratings

SunTrust Robinson Humphrey assigns one of three ratings to stocks covered by our Research Department: **Buy, Neutral, or Reduce.**

In addition, we assign a risk rank to each stock based on a combination of fundamental and stock volatility factors:

Low = Low stock price volatility reflected by high predictability of financial results.
Moderate = Moderate stock price volatility reflected by medium predictability of financial results.
High = High stock price volatility reflected by inconsistent predictability of financial results.
Speculative = Greatest stock price volatility reflected by low predictability of financial results.
Venture = Recommended only for maximum risk oriented and well-diversified portfolios.

Our ratings are a function of the risk ranking (higher return expectations for higher risk) and the absolute expected total return (price appreciation plus dividends) that result in our estimated 12-month price target. Please refer to the grid below for additional detail.

Performance Definition Scale

Total return (capital gain/loss + dividends) expected over the next 12 months

Rating	Low Risk	Moderate Risk	High Risk	Speculative
Buy	Over 10%	Over 15%	Over 20%	Over 25%
Neutral	-5% to 10%	-5% to 15%	-10% to 20%	-10% to 25%
Reduce	-5% or Worse	-5% or Worse	-10% or Worse	-10% or Worse

SunTrust Robinson Humphrey assigns one of three ratings to industries/sectors covered by our Research Department: Overweight, Market Weight or Underweight. These terms are relative to the appropriate S&P 500 industries/sectors.

Deviations from expected price targets due to price movement and/or volatility will be reviewed by the analyst and research management on a timely basis. Price targets are only required on Buy rated stocks; the analyst may choose to have price targets on Neutral or Reduce rated stocks, but it is not required. Action taken by an investor should be based upon their personal investment objectives and risk tolerance compared to a stock's expected performance and risk ranking.

SunTrust Robinson Humphrey ratings distribution as of 07/17/2013:

Coverage Universe		
Rating	Count	Percent
Buy	176	47
Hold/Neutral	184	50
Sell/Reduce	11	3

Investment Banking Clients Past 12 months		
Rating	Count	Percent*
Buy	51	14
Hold/Neutral	34	9
Sell/Reduce	0	0

*Percentage of Investment Banking clients in Coverage Universe by rating

Financial Definitions

Average Daily Volume = The cumulative number of shares traded over 200 days ÷ number of trading sessions in that period
Debt/Cap. = Debt ÷ shareholders' equity + debt
Debt/EBITDA = Long-term debt ÷ earnings before interest, tax, depreciation, and amortization
Dividend/Yield = Annual dividend per share ÷ share price
EV/EBIDTA = (Preferred stock + common stock + long-term debt - cash) ÷ earnings before interest, tax, depreciation, and amortization
Float = Number of shares outstanding available for public trading
NAV = Going concern value based on historical transactions
Long-Term Debt = Loans and financial obligations extending beyond one year
Mean CFPS = Thomson/Reuters mean cash flow per share estimate
P/CFPS = price ÷ cash flow per share before working capital
Proven Reserves = An estimated quantity of all hydrocarbons, which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions
Reserve Life = Proven reserves divided by production
Reserve Mix = % of proven reserves comprised of natural gas
Shareholders' Equity = Share capital + retained earnings - treasury shares

Key Indices:

DJIA – Dow Jones
RUI – Russell 1000
RUT – Russell 2000
MID – S&P MidCap 400
SPX – S&P 500
SML – S&P SmallCap 600

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EXHIBIT
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6/4/18 AG
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Imperial Capital®

Capital Structure Focus

EQUITY AND INDUSTRY RESEARCH

September 27, 2013

Miller Energy Resources

(MILL: $7.16 Outperform; $9.50 PT)

Initiating Coverage with an Outperform Rating and $9.50 Price Target—Successful Cook Inlet Development and Exploration Continues to Prove Up Value of Assets Purchased in Bankruptcy

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Key Data

Symbol	MILL
Price (9/26/13):	7.16
Rating	Outperform
Price Target	$9.50
Estimates:	
2014E EBITDA	62
2015E EBITDA	140
2014E EPS	(0.40)
2015E EPS	0.83
2014E EV/EBITDA	7.0x
2015E EV/EBITDA	3.1x

Company Description
Miller Energy Resources is an oil & gas exploration, development and production company that is focused primarily in the Cook Inlet, Alaska.

Figure 1. Miller Energy Resources—Key Company Data, Prices as of 9/26/13

Key Data:		FY: Apr	FY2013A	FY2014E	FY2015E
Price:	7.16	EPS			
Price Target:	9.50	Q1	($0.07)	($0.16)	$0.02
52-Week Range:	3.34-7.38	Q2	($0.12)	($0.11)	$0.02
Market cap ($mn):	311.1	Q3	($0.13)	($0.10)	$0.08
Shares Out (mn):	43.7	Q4	($0.35)	($0.03)	$0.05
TEV ($mn):	428.8	FY	($0.67)	($0.40)	$0.17
		DCFPS			
Cash	3.1	Q1	$0.10	($0.06)	$0.63
Total Debt	57.6	Q2	($0.06)	$0.18	$0.67
Total Preferred	63.2	Q3	($0.06)	$0.29	$0.72
Equity Rating:	OUTPERFORM	Q4	($0.25)	$0.42	$0.67
		FY	**($0.27)**	**$0.83**	**$2.69**
		EBITDAX ($mn)	(5.2)	62.1	140.0
		EV/EBITDAX	(82.9)	7.0	3.1

Note: Balance sheet data as of 7/31/13 does not include $20mn of additional 9% debt from Apollo, and $25mn issuance of Series D Preferred.
Sources: Company reports and Imperial Capital, LLC.

▪ Financial Summary

Miller Energy (MILL) generated revenue of $39.5mn and EBITDAX of ($7.6)mn during the latest 12 months (LTM) ended 7/31/13, though EBITDAX turned positive in the latest quarter. As of the end of 2Q FY13, MILL had $3mn in cash and cash equivalents and $52mn of long-term debt outstanding. We believe MILL likely will outspend cash flow and continue to tap the capital markets to fund its program. In 2Q13, MILL incurred capital expenditures of $29mn and FY14 capex of $125mn is planned. If successful, MILL can transition to self-funding in calendar 2H15, in our view.

▪ View

We are initiating coverage of MILL with an Outperform rating and one-year price target of $9.50, about 33% above the recent share price. MILL purchased its Cook Inlet assets out of bankruptcy in 2009 for about $4.5mn, the same assets that Pacific Energy Resources earlier purchased for $460mn. Post-acquisition, MILL was hampered with rig delays, but since installing its newbuild rig on the Osprey platform, it has reported a string of successful wells, demonstrating the value of its assets and the acumen of its engineering and geological/geophysical (G&G) team. It has successfully grown production from nearly nil to over 3,000 boe/d in Alaska, and we expect significant additions to its proved reserves in April 2014. Miller's proved NAV of $7.61/share has significant running room, e.g., MILL booked only slightly less than 6mmboe of proved reserves booked on Redoubt, whereas the previous operator had booked 50mmbbl of PUDs.

▪ Rationale

Execution is solid: Results in the Redoubt Shoals Unit (RU) unit have surprised on the upside. The RU-1 sidetrack resulted in an IP rate of over 700 b/d, more than twice the IP rate reported by the previous operator and bringing production on the Osprey platform alone to over 2,500 boe/d. Previous to RU-1, the RU-2 well was sidetracked with an IP rate of 1,281 boe/d. The success of these two wells demonstrates to us that the previous operator's well design/completion was flawed and the reservoir is not damaged or depleted, while highlighting the capability of MILL assets and the ability of its op team and management to execute in a challenging environment.

Capitalization

Figure 2. Miller Energy Resources—Capitalization as of 7/31/13, Prices as of 9/26/13

			Debt Face		Net Debt Face		Net Debt Market			Price / YTM Analysis			Interest Exp. Analysis	
LTM Revenues	(07/31/13)	40.1												
LTM EBITDAX	(07/31/13)	(7.6)												
LTM EBITDAX %	(07/31/13)	-18.9%												
LTM CapEx	(07/31/13)	57.5												
USD Million	M/S&P	Balance	Cum. Debt Face	LTM EBITDA (7.6) Mult.	Net Cum. Debt Face	LTM EBITDA (7.6) Mult.	Debt Mkt	Net Cum. Debt Mkt	LTM EBITDA (7.6) Mult.	Price	YTM/CY	Mat.	Rate/ Coup.	Est. Int. Exp.
Cash	N/A	3.1												
Company Debt														
Apollo Investment Corporation (9%)	N/A	55.0	55.0										18.00%	9.9
Total Debt		55.0	55.0	-7.3x	51.88		55.0	51.88						9.9
Preferred Equity														
10.75% Series C Cumulative Preferred ($25 face)[1]		64.4	63.2							25.95	*10.397*	perpetual[1]	10.75%	6.9
Total Preferred		64.4	63.2	-8.4x	63.2	-6.9x	65.6	65.6	-8.7x					6.9
Total Debt + Preferred			118.2	-15.6x	115.1	-15.2x	120.6		-15.9x				Interest+ Preferred	16.8
Equity Value (Market Value) (1)		311.1	429.4	-56.7x	429.4	-56.7x	$7.16	43.7 Shares						

Note: Balance sheet data as of 7/31/13 does not include $20mn of additional 9% debt from Apollo, and $25mn issuance of Series D Preferred.
(1.) Convertible at $10/share if certain triggers occur.
Sources: Company reports and Imperial Capital, LLC.

Rationale (continued)

Year-end projections of 4,000 boe/d are realistic, in our view. Rig 35 at the RU Osprey Platform has moved onto RU-5, and we expect results shortly and a new redrill added about every two months. Company-wide, production has averaged 3,300 boe/d for the last few weeks. There are still 7+ low risk locations at Redoubt Shoals, and two additional higher risk wells are drilling which could lead to significant development. We like the risk/reward of the project base and the running room within its properties.

Valuation

Our one-year price target of $9.50 is based on MILL's discount to NAV, and the fact that we did not include any upside from a large exploration license in Susitna Basin. Based on proved reserves alone (with adjustments for cash, debt, preferred stock), we value MILL shares at $7.61share (NAV). The shares trade at 6% below our proved NAV (Net Asset Value), and at a 39% discount to RNAV. We note that most companies in the sector trade *above* their proved NAV but *below* RNAV (Risked Net Asset Value). Hence MILL's NAV more than supports the recent price of the shares. The company estimates 10.3mmboe of probable reserves and 35.5mmboe of possible reserves, which we appropriately risk, leading us to an RNAV estimate of $11.53. MILL believes FY14 activity can increase PDPs from 2mmbbls to about 12mmbbls in FY14 (current bookings were based upon well performance of the previously troubled wells, and thus much of this increase is not expected to be a PUD to PDP reclassification, but rather new proved reserves). Our estimates are more conservative than these company projections, and use a higher probability factor on just 4.4mmboe of probable reserves. For reference, MILL trades at 15.0x *calendar* 2013 TEV/EBITDA but at just 3.3x *calendar* 2014 TEV/EBITDAX. Based on the 2014 numbers, the group trades between 1.3x and 5.3x, with a mean of 3.8x.

In our valuation, we also employ a relatively conservative $200mn value for the hard assets, which include production facilities, the Osprey offshore platform, Rig 35 newbuild, and Rig 34.

Figure 3. Miller Energy Resources—Valuation, as of 9/26/13

	Units	Probability	Risked Units	$/unit	Dollar Value ($000's)	Per Share Value ($/share)
Reserves						
Proved Developed Producing						
Crude (mbbl)	2,325	100%	2,325	$36.83	$85,638	$1.97
Natural Gas (mmcf)	2,601	100%	2,601	$2.63	$6,843	$0.16
Proved Undeveloped						
Crude (mbbl)	6,209	95%	5,899	$28.31	$166,996	$3.84
Natural Gas (mmcf)	1,956	95%	1,858	$1.89	$3,507	$0.08
Total Proved						
Crude (mbbl)	8,534					
Natural Gas (mmcf)	4,557					
Total Reserve Value					$262,984	$6.05
Non O&G Assets					$207,271	$4.77
Total Asset Value					$470,256	$10.82
Total Liabilities					$139,386	$3.21
Net Asset Value					$330,870	$7.61
Risked Reserves						
Probable (high P)						
Crude	4,000	60%	2,400	$28.31	$67,947	$1.56
Natural Gas	2,500	60%	1,500	$1.89	$2,831	$0.07
Probable (normal P)						
Crude	2,000	35%	700	$21.93	$15,350	$0.35
Natural Gas	23,000	35%	8,050	$1.36	$10,913	$0.25
Possible						
Crude	1,000	25%	250	$21.93	$5,482	$0.13
Natural Gas	200,000	25%	50,000	$1.36	$67,780	$1.56
Risked Net Asset Value (RNAV)					$501,173	$11.53

Assumptions: $4/mmcf lower-48 gas price; $6/mmcf Alaska gas price; $90/bbl NYMEX crude oil; ($4 discount from ANS crude). Liabilities are based upon 1Q14 capitalization, adjusted for recent credit line withdrawal; reserves are from FY13 reserve report.
Sources: Company reports and Imperial Capital LLC research.

Figure 4. Miller Energy Resources—Analysis of Select Equity Comparables, Prices as of 9/26/13

Company	Price/Shr	Shares Outst.	Market Cap	TEV	LTM EBITDAX	2013E EBITDAX	2014E EBITDAX	TEV/2013E EBITDAX	TEV/2014E EBITDAX
Abraxas Petroleum Corp	$2.57	92.8	$238.0	$360.7	$38.5	$48.6	$69.9	7.4x	5.2x
Callon Petroleum Corp	$5.20	40.4	$210.2	$329.8	$57.0	$60.5	$91.0	5.4x	3.6x
Comstock Resources	$15.90	48.3	$768.2	$2,075.8	$236.6	$345.8	$464.4	6.0x	4.5x
FX Energy	$3.25	53.4	$173.6	$179.6	($7.9)	$26.4	$38.4	6.8x	4.7x
Goodrich Petroleum	$24.85	36.8	$150.3	$720.0	$118.0	$141.3	$213.6	5.1x	3.4x
Gastar Exploration	$4.08	61.6	$398.2	$487.3	$53.9	$69.1	$93.9	7.1x	5.2x
Penn Virginia Corp	$6.47	65.3	$0.0	$578.3	$204.4	$329.6	$438.3	1.8x	1.3x
Mean								5.4x	3.8x
Miller Energy Resources (MILL)	$7.03	43.7	$307.0	$428.8	($7.9)	$28.0	$131.0	15.3x	3.3x

EBITDAX numbers for MILL approximate a calendar year to allow for a more meaningful comparison to peer group. MILL's FY-end is in April, but the above figure uses a January-end year of the following year (e.g., calendar 2013 ends in January 2014 for MILL).
Sources: Company reports and Imperial Capital LLC research.

Investment considerations

MILL's activities in Alaska are performed through its wholly-owned subsidiary Cook Inlet Energy (CIE), but in this report, all references are made to Miller Energy Resources, the parent.

Hilcorp and Apache are making substantial investments in the Inlet. After reaching a peak of 230,000 boe/d in the 1970s, the Cook Inlet became an oil-activity dead zone for many years due to a mass exodus for the North Slope. Production dropped to about 8,000 boe/d. However, the industry has recognized that significant reserves were likely left behind, as evidenced by the recent entrance of Apache and Hilcorp (the third largest private E&P in the U.S.) into the Inlet. Apache holds over 1mn acres and has noted the Inlet may contain upwards of 1.3 to 1.4bn barrels of oil yet to be discovered. Hilcorp reinvested part of its $3.5bn Eagle Ford sale proceeds and acquired the Cook Inlet assets of Chevron and Marathon. While of course location is everything, we view the entrance of these superindependents as a validation that the majors exited before exploitation was complete.

Top notch Alaskan team, in our view, and hard assets. We recently visited the Cook Inlet facilities to gauge its capabilities and condition. We toured the two large production facilities and the Osprey offshore platform with COO David Hall and saw first-hand the quality of the hard assets and the operating team. Mr. Hall has been with the Cook Inlet operation for 20+years, and many team members have also been with the assets for a long tenure. We believe Mr. Hall's knowledge of the entire Alaskan operation and hands on management style was evident. Previously, Mr. Hall had detailed his experience with earlier operators of the assets and what he believed the early mistakes were in the well completions. The analysis of Mr. Hall and his team, along with their solutions, have proven to be correct.

Low-risk activity can increase production. We believe management guidance is realistic and that low-risk, near-term activity can push production to (or over) 4,000 boe/d by year-end. Management has been previously criticized for providing overly-ambitious projections. In the time we have known this team (1+year), it has transitioned to providing more conservative expectations. In fact, the last few wells exceeded expectations. We classify current and upcoming activity as low risk because in the Redoubt Shoals Unit, previously producing wells are being sidetracked to undo the mistakes of the predecessors (e.g., substandard cement was used, and casing collapse occurred in the current and several other wellbores). Another well expected to be online before year-end (Sword) is a fault block extension of the West McArthur River field, and has already had excellent shows. We expect brisk growth. Guidance for FY14 year-end exit rate of 6,000 boe/d is within reach, in our view, while the average production in 4Q13 was just 899 boe/d.

We expect an increase in proved reserves with recompletion/sidetrack results. MILL has a fiscal year ending in April, thus the benefit of recent RU successes will not be seen in the reserves until mid-2014, when MILL believes it could add 10mmbbls to PDP reserves. We can estimate that substantial reclassifications from PUD to PDP will occur (e.g., RU-2), along with potential increases in PDP wells that have been improved (e.g., RU-1, RU-2). Redevelopment opportunity with the slots remaining on the Osprey Platform should continue at a fast pace and thus other additions to PDP are expected. MILL has identified three additional sidetrack opportunities in Redoubt and seven non-proved locations, plus five in West McArthur, Sword and Sabre. In general, EURs are about 1mmbbl and well costs are about $10mn after tax credits for new drills (significantly less for sidetracks), potentially leading to triple-digit IRRs at current oil prices.

Cook Inlet activity is tax advantaged. MILL's Cook Inlet oil production is exempt from production taxes. Further, MILL may be eligible for a variety of tax credits, including a 40% Well Lease Expenditure Credit. MILL has received $8mn in such tax credits, has applied for $24mn more and has been notified that $12mn should be paid in the next month.

We believe MILL assets in Cook Inlet would likely be attractive to larger competitors MILL's leasehold and infrastructure assets would likely be extremely attractive to companies such as Apache or Hilcorp, or another independent looking to enter the Inlet. We believe MILL would not entertain offers until it further proved up the value of its leaseholds. Due to the proximity of Hilcorp's Trading Bay field, and Hilcorp's eventual need for increased processing capacity, Miller's production facilities could be preferred over permitting and building increased capacity at its aging Trading Bay facility.

Gas production and services provide additional revenue stream. MILL currently produces about 2mmcf/d, and uses over 1mmcf/d for its own natural gas generation. MILL has signed a gas sales agreement with a third party, so it has the ability to sell excess gas. While the price was not disclosed, we estimate it is likely around $6/mmbtu. The most significant benefit to MILL's successful gas activity is that is can fuel its own electric generation. This is particularly important in the winter, when prices can spike to approximately $20/mmbtu.

MILL's Kustatan facility has the ability to generate 12 MW of electricity, and process 50,000 b/d of oil, gas, and water. MILL also has 60,000bbls of storage capacity, and is currently being paid by Hilcorp for storage. With internal electricity needs of about 3MW and about 4,000 boe/d of production estimated for year-end 2013, there is ample spare capacity of both electric generation and processing to sell. Hilcorp's nearby Trading Bay facility has a 5,000 b/d oil capacity, but is limited by water capacity of 25,000 b/d. We drove through Hilcorp's facility and from the outside, there were significant signs of age. More importantly, though, Hilcorp is planning on increasing production from 3,900 boe/d in 2011 to 25,000 boe/d in 2015 with actual spending of $238mn in 2012 and $300mn planned for 2013. Production in May 2013 was 9,700 b/d, with about 4,000 boe/d at McArthur River (Source: Alaska Journal). Hilcorp is near maxing out its own processing capacity, and even if it chooses to expand Trading Bay the timeline would be long, thus we see MILL's facilities as a natural outlet for Hilcorp production.

Several catalysts on the horizon. MILL catalysts include results of RU-5, which the company expects to report imminently, and results from RU-9, which will spud thereafter. MILL is also drilling its Sword prospect and its Olsen Creek prospect, both of which should have results in the near future. The Sword Prospect is in a distinct fault block just north of the oil-productive West McArthur Unit. Olsen Creek is targeting the Beluga and Tyonek gas sands. If successful, Olsen Creek could be a 24-well development.

Figure 5. Miller Energy Resources—Rework Success, as of 9/26/13

Well	Rate pre-purchase	Rate after rework/redrill	Reserves mboe	Cost/boe
KF-1	3	12	5	$265.56
Redoubt Shoals Gas				
RU-4	0	283	99	$13.63
RU-3	0	616	218	$38.83
Redoubt Shoals Oil				
RU-2A	91	1,281	1,127	$7.10
RU-7	40	250	216	$16.24
RU-1	60	482	570	$4.12
RU-1A		700+	570	
West McArthur Oil				
WMRU-5	0	578	706	$3.56
WMRU-6	185	584	780	$2.81
WMRU-1A	0	33	62	$6.04
WMRU-2A	0	37	400	$1.50

Sources: Company reports and Imperial Capital, LLC.

Financial Outlook

Balance Sheet

As of 7/31/13, MILL reported $3.125mn in cash, long-term debt of $53.7mn, and Series C 10.75% Preferred with a redemption value of $63mn. On 9/24/13, MILL announced it was offering a new Series D 10.50% preferred with a total redemption value of $25mn. Pro forma for the new Series D offering, and a $20mn takedown on the Apollo line, MILL has long-term debt of $73.7mn and Preferred shares of $88mn, for a total of $162mn in debt and preferred.

MILL had been raising money from its 10.75% Series C Preferred as funds are required (see figure below). The Series C Preferred carries a conversion right at $10 per share, but is not redeemable before 11/1/17 unless there is a change of control, or the closing bid of MILL shares exceeds $15 for 20 trading days in any 30 consecutive trading day period. As of 6/27/13, there were 2.6mn shares of Series C outstanding, and there will be 1mn shares of Series D preferred outstanding when the offering is closed.

MILL's long-term debt is under a $100mn facility with Apollo Investment Corp., of which $75mn is currently drawn (and of which $20mn was drawn subsequent to the FY1Q14 end). The initial Apollo Funds ($55mn) carry an interest rate of 18%, with the recent withdrawal of $20mn at 9%. While the initial rate is extremely high, the facility was the best option at the time, and was undertaken in light of the expected high well IRRs.

MILL is currently in violation of covenants of the Apollo facility and has received a waiver from Apollo. We expect the company to be in violation in the upcoming July quarter, but in compliance with its production target the October quarter, and the EBITDAX/Interest covenant in the April 2014 quarter. Covenants include EBITDA/Interest ratio of 4:1, and gross production of 2,600 boe/d.

Figure 6. Miller Energy Resources—Recent Series C Preferred Share Fundraising

Date(s)	Type of offering	Shares	Offering price	Net proceeds
9/28/2012	IPO	685,000	$23	$14,420,000
10/12/2012 - 7/31/2013	ATM, various dates/prices	384,353	$21.48-$23.51	$8,111,000
2/12/2013	Follow on	625,000	$22.90	$13,260,000
5/7/2013	Follow on	500,000	$22.25	$10,320,000
6/27/2013	Follow on	335,000	$21.50	$6,656,000
		2,529,353		$52,767,000
Liquidation Value	$63,233,825			

Note: 1mn of $25 face Series D 10.5% Preferred was priced on 9/25/13.
Sources: Company reports and Imperial Capital, LLC.

Liquidity and Capex

MILL recently amended its $100mn credit facility with Apollo. The initial borrowing base was $55mn and the amendment allowed MILL to draw an additional $20mn at a 9% interest rate until 1/31/14 (the additional $20mn was drawn on 8/5/13). After 1/31/14, the rate on the 9% funds returns to 18%. However, based upon public comments made by management, we fully expect the entire Apollo line (now $75mn outstanding) will be refinanced before that date. MILL will not incur any prepayment penalty on the new borrowings before that date. The borrowings of $55mn drawn prior to the amendment are subject to a prepayment penalty of $5.2mn. While this is a sizeable penalty, MILL looks to the long-term cost of financing.

As noted earlier, MILL ended the quarter with about $3mn in cash. Additionally, MILL also was notified it will receive Alaska tax credits in the coming weeks, which are expected to total $12mn. On 9/25/13, MILL completed another Preferred Equity raise of $25mn (proceeds $23.2mn). Together with the Apollo withdrawal, about $58mn of cash should be available to bridge the gap between capex ($125mn) and cash flow, along with expected fundraising on the Series D Preferred. We expect the company will transition to positive cash flow in FY14 with $37mn of Discretionary Cash. In FY15, we estimate DCF of $123mn and capex of $98mn, and thus believe MILL can finance this level of activity. The main operational/geologic risk to our numbers is unsuccessful drilling at Otter Creek.

Production

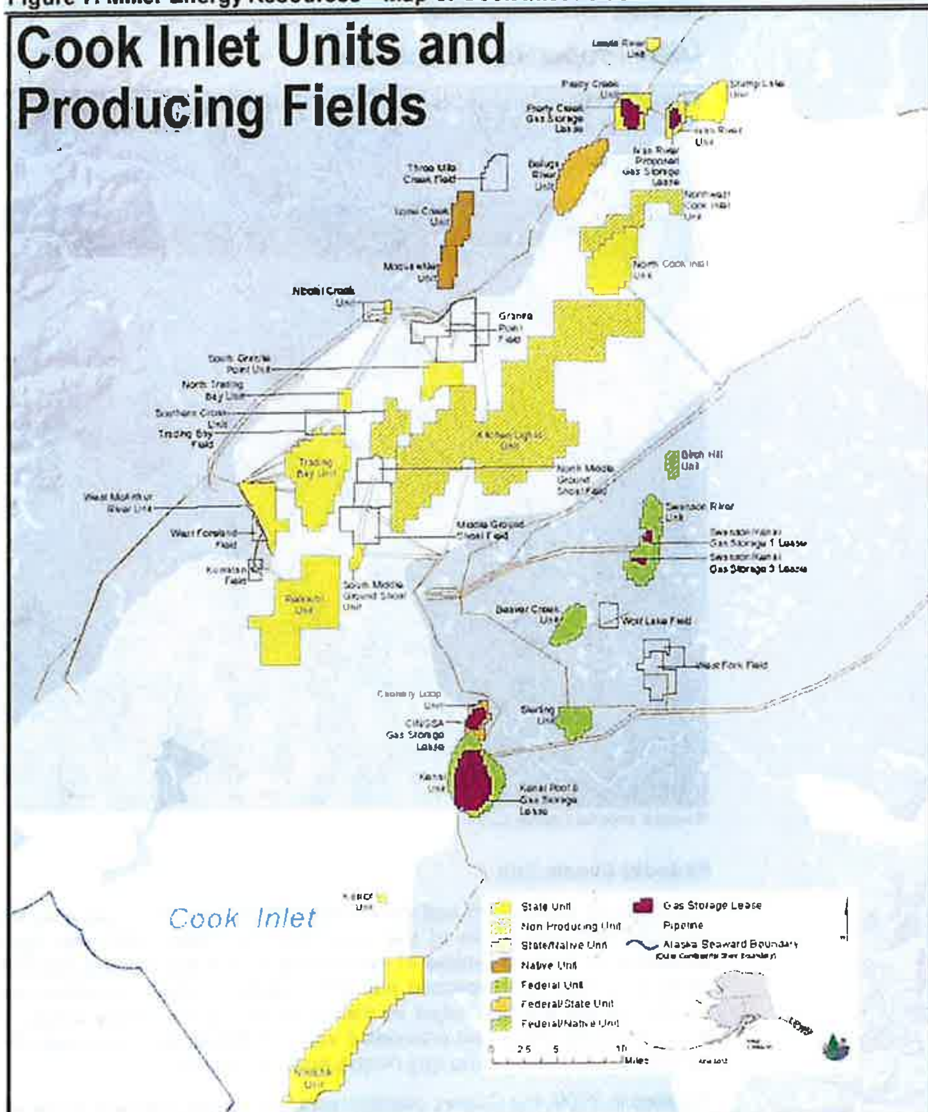
In the July 2013 quarter, MILL produced 1,360 boe/d. Current production is well above this, due to success at RU-2A online in June 2013, and RU-1A online in July 2013. In early September 2013, the Company reported production at 3,300 boe/d with these additions. Our production ramp includes an approximate schedule of activity and is predicated upon the company's access to capital. For 2QFY14, we include two months of production from RU-1A, and one month from RU-5A. Contribution from the currently drilling Sword well is assumed to commence in 3Q14, and Olsen Creek in 2QFY15. In its new presentation, the company has provided guidance for FY-end 2014 (April) of 6,000 boe/d. We believe this target is reasonable, yet we are more conservative in our estimates. Because we do not have clarity on the drilling schedule for FY15, we remain relatively conservative with our 2015 estimates, assuming a FY14 exit of roughly 8,000 boe/d. (We note that we are bringing new RU wells online at 400 b/d, which is under company guidance for most RU wells of 600 b/d. Thus, considerable potential upside to our production numbers exists.)

Hedging

MILL has an average of 1,194 b/d hedged at $101.63 for calendar 2014, 1,600 b/d at $99.21 for calendar 2015, and 1,871 b/d at $93.90 hedged for calendar 2016. We expect MILL will add to these hedge positions, particularly for late 2014 and further out.

Property Overview

Figure 7. Miller Energy Resources—Map of Cook Inlet fields



Sources: State of Alaska Dept. of Natural Resources, Division of Oil and Gas, 2013.

Resurgence of the Cook Inlet

The first commercial discovery of hydrocarbons in the Cook Inlet was made in the early 1960s, and with the influx of the majors, production peaked in 1971. After discoveries in Prudhoe Bay and other international plays, the majors exited the inlet. Today, production is about 15,100 b/d, compared to 219,000 b/d at the peak. The USGS estimates that 600mmbbls of crude, 46mmbbls of NGLs, and 19 tcf of natural gas remain.

The Cook Inlet is experiencing a resurgence activity due to the recognition that significant reserves were left behind when the majors left. Additionally, the Alternative Tax Credit for Oil and Gas Exploration (AS.55.025) and other attractive tax credits enacted in 2010 have attracted independents.

MILL entered the Cook Inlet through an almost unthinkable deal. It obtained proved reserves of 5.6mmbbls and 3.7bcfe of natural gas, the Kustatan onshore facitlity, the West MacArthur River (West Mac, or WMRU) facility, and the Osprey state-of-the art platform for $2.25mn cash and $2.22mn in bonds and other payments to the state of Alaska. The assets were acquired out of bankruptcy court, and were the

abandoned assets of Pacific Energy Resources. Pacific Energy acquired the assets from Forest Oil in 2007 for $467mn. We believe the problems previous operators experienced in monetizing the assets were not due to the assets themselves, but rather to a combination of poor management and completions, along with poor commodity pricing.

Miller Properties—Cook Inlet

Figure 8. Miller Energy Resources—Osprey Platform, Cook Inlet

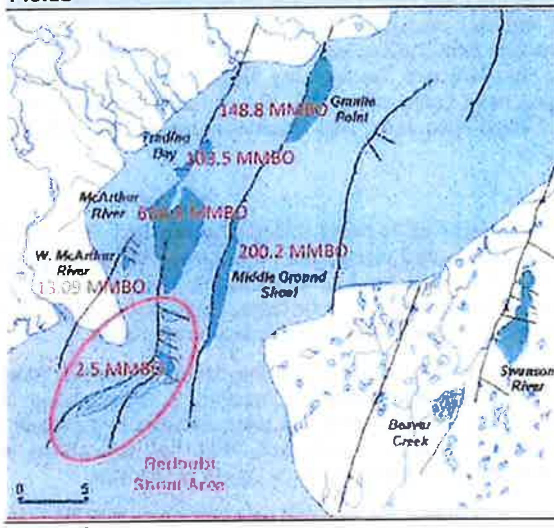
Sources: Imperial Capital, LLC.

Redoubt Shoals Unit

The Redoubt Shoals Unit and the Osprey platform are the crown jewels of the acquired assets. The field is on trend with and south of the giant McArthur River field (see figure below), which has cumulative production of over 634 mboe of hydrocarbons, and the Trading Bay Field, which has produced 103 boe. Redoubt Shoals has produced just 2.5 mmboe to date. The oil-bearing Hemlock Formation, at 11,000-12,000', is the primary target in the trend, with a secondary target of Tyonek Sands gas. For Miller, successful gas production provides it with the feedstock to generate its own electricity, while excess gas can be sold into the gas-hungry Anchorage gas market.

Installed in 2000, the Osprey platform was built for purpose and is the youngest platform in the Cook Inlet. After acquiring the Redoubt Shoals Unit and the Osprey, MILL contracted for a newbuild rig, Rig 35, which was delivered in Summer 2012. Since its delivery, MILL has been very active with its rework/redrill program. When we toured Osprey and Rig 35 this past August, we observed both active and available slots within the platform legs. MILL has already identified opportunities for many of the remaining 13 slots (21 in total) within the six fault blocks that make up the Redoubt complex. All wells are all drilled directionally off the platform and if it is drilling through slots on the same leg, there is virtually no lag time for skidding the rig.

Figure 9. Miller Energy Resources—Cumulative Production from Redoubt Shoals Unit and Nearby Fields



Sources: Company reports.

Recent accomplishments include:

- **RU-2A**—This well was the company's first sidetrack (previously wells were reworked) and thus its success was an important indicator of the company's operational/technical acumen. RU-2A came online at an unexpectedly high rate of 1,314 boe/d and more than doubled company production. Even more surprising, the rate increased after the well was put on production: during the first quarter, it averaged 1,307 boe/d, and has averaged 1,252 boe/d since coming online (with 10% water cut). The well is still producing over 1,200 boe/d.
- **RU-1A**—This well initially was put back onto production after a workover in 2012, but after removing 35,000lbs of "junk" (Electronic Submerisble Pumps [ESPs] and Liquid Level Control valves [LLCs] and other obstructions), one ESP and LLC could not be removed. The reworked well produced from October 2012 until June 2013 when the new ESP needed replacement (the ESP's need to be replaced every six months to one year). The company elected to sidetrack the well to avoid the obstructions that could not be removed. The RU-1 sidetrack was completed successfully in mid-August 2013 and came online with an IP over 700 boe/d and has averaged 740 boe/d since returning to production. This is about twice the historical IP rate versus the IP obtained by the previous operator, due to the sidetrack providing about 455' of penetrations and encountering oil throughout the entire Hemlock formation. Importantly, the company is seeing just 5% water cut. Miller is running the well pump at a reduced speed while it analyzes the production, so the rate may eventually bump up a bit (though the current results are still excellent). Importantly, the AFE for the well was $10mn and it is projected to come in well under budget at about $6mn, partly due to the kickout occurring at a deeper depth than originally planned. The projected EUR is just under 1mmbbls.

Current activity

- **RU-5b**—After completing RU-1, the rig moved to RU-5 on the Osprey platform. The RU-5b will be drilled and completed in a manner similar to RU-1, targeting the oil-bearing Hemlock formation. The company will also evaluate the Tyonek gas intervals during drilling. Initial logs showed oil through the entire Hemlock formation, much like RU-1a. The company should report an IP rate is a couple of weeks, with expectations of 400 boe/d. As in RU-1a, the AFE is $10mn, but the well looks like it will come in under budget.

Upcoming activity

- **RU-D1**—Rig 35 will move from RU-5b to this disposal/injection well when RU-5b is completed. This well is used to dispose of cuttings and other solid waste directly on the Osprey platform and requires a clean-out, which will just take a few days.
- **RU-9**—RU-9 is a PUD location with target EUR of 1mmbbl and PV10 of $48mn (net of Alaska tax rebates). The PUD is on the South Step Out structure, and if successful, could prove out additional reserves. In the 1960s, there was a positive DST on one well and a confidentially held result on another well in the South Step Out.

West McArthur (West Mac) and vicinity

West McArthur was the most recent sizeable oil accumulation discovered in the Inlet (1991). The 100% WI West Mac Unit has two producing wells, which Miller brought back onto production in 2010. Current cumulative production from the two wells is at 640 boe/d, with minimal decline (about 10% annual). The field is on trend with Hilcorp's Trading Bay field, which has cumulative production of over 100mmboe. Wells in the region have come online with IPs of 1,500 boe/d or greater. Three development wells have been identified in West Mac, along with three workovers. One well (Sword) in the northern offset block is currently drilling.

Current Activity

- **Sword**—The Sword well is being drilled onshore (but directionally to an offshore location) by the Patterson Rig 191. A well was drilled here in the 1960s that proved the presence of hydrocarbons. The location is in an adjacent fault block to the main West Mac unit, and targets a four way closure and roughly 240-acre structure with target EOR of 800,000bbls. MILL has planned the well to be structurally high from the well that was drilled in the 1960s.

  MILL recently suffered a setback with the drilling of Sword. After drilling to 16,500', a mechanical defect in the bottom hole assembly resulted in it separating from the drill string. After several attempts to fish out the assembly, the team decided to sidetrack the well at 10,000' and is back to 13,000'. Prior to pulling up to sidetrack, MILL had gas shows at 8,200', 9,800' and oil shows at 15,000'. The sidetrack is expected to be online in October.
- If Sword is not successful, the well can be sidetracked into the main West Mac fault block.

Upcoming activity

- **WMRU-8**—The first of three development wells in the field will be drilled next.
- **Sabre Prospect**—Sabre is a similar prospect to Sword, in that it is a discrete fault block just north of Sword. Also, if Sabre is not successful (and Sword is), the well could be sidetracked back to Sword.

Olsen and Otter Prospects—Cook Inlet, Alaska

Otter and Olsen Creek are onshore prospect areas northwest of West Mac. Previously, Rig 34 drilled the Otter #1 prospect to 7,000' and targeted the Beluga and Tyonek gas sands. Pump issues halted drilling and only the Beluga was evaluated. Target EURs at both Otter and Olsen Creek are 3.5 bcfe. While Olsen Creek, which is about 7 miles SW of Otter #1, is currently drling (see section below), we note that the Tyonek has not been evaluated in the region. The company believes that success could result in a development of about 24 gas wells in the complex. Only the gas intervals are being evaluated at this time, though Hemlock oil potential does exist and can be explored at a later date by a higher horsepower rig.

Current Activity

- **Olsen Creek #1**—This well, targeting Tyonek and Beluga gas sands, also suffered a setback and needed to be sidetracked after drilling to 5,300'. The culprit, coal sticking issues, has been dealt with and drilling is moving forward successfully. Results are expected in about a month. The well is being drilled by Miller-owned Rig 34. The well should be complete in 3-4 weeks.

Upcoming Activity

- **Otter #1**—The Otter #1 well had previously penetrated the top of the Beluga gas sand and exhibited good reservoir qualities and strong gas shows prior to encountering equipment problems. The well can be reentered and deepened, but first Miller is pursuing a Unit application with respect to the prospect area before activity commences. Otter is approximately 9 miles north of the Beluga River gas field.

Sustina Basin

The Susitna Basin underlies the Susitna River valley north of Anchorage. Geology is understood to be similar to the Cook Inlet, yet there is no commercial production from this Basin. MILL was awarded three exploration licenses, which include a 471,474 acre license (expires 10/31/13, but MILL expects to have its work commitment fulfilled by that date), a 62,909 acre license (expires April 2021) and a 45,764 acres license (expires April 2017). The company has posted bonds toward fulfilling its work commitment, and will continue to do so until work is carried out.

Hard Assets—Cook Inlet

MILL's infrastructure is the newest in the Inlet, and could be valued in the market at upwards of $300mn. In fact, a third party report by Apollo valued Rig 34 and Rig 35 alone at $190mn.

Osprey and Kustatan

The combined initial cost of just the Kustatan facility and the Osprey platform was in the neighborhood of $200mn in the late 1990s/early 2000s. Osprey was built for purpose by Forest Oil in 2000-2002, and is the newest platform in the Inlet. The facility is in 60' of water, just 3.5 miles southeast of the onshore Kustatan Production Facility. The two are connected via subsea pipeline, and thus all separation/processing takes place onshore. Osprey is powered by electricity generated at Kustatan, eliminating the need for costlier and more polluting diesel generation.

Kustatan can separate 25,000 boe/d of oil/gas/water (expandable to 50,000 boe/d) and has about 60,000 bbls of storage capacity. The facility has ample excess capacity which can be sold to Miller's neighbor Hilcorp when Hilcorp maxes out its nearby Trading Bay facility. We note that all of MILL's crude is transported to the Tesoro Kenai refinery on the Kenai Peninsula. The Tesoro refinery has capacity of 72,000 b/d and we believe it is running at about 45,000–50,000 b/d. Tesoro is required to accept Alaskan crude before other grades, so we are unconcerned about higher grade Bakken crudes displacing Alaskan crudes.

West McArthur facility

The West McArthur production facility was built for a 7-well development, can process 5,000 boe/d, and includes storage capacity for up to 12,000 bbls of crude, which MILL leases to its competitors. The facility has sleeping quarters and kitchen.

Rigs

- **Rig 35** was a new build contracted by Miller, and was certified for operation in 2Q13. The rig is a National 1320, 2,000 rig with maximum drilling depth of 24,000' and cost $19.5mn, The rig has performed well to date with successful workovers and sidetracks.
- **Rig 34** is a Miller-owned onshore rig, brought north from the lower 48 states, but retrofitted for Alaska conditions

Future Pipeline? MILL has applied for permits and commenced engineering on an 8", 29-mile, $35mn Trans-Foreland pipe which would carry crude from Kustatan on the NW Cook Inlet Coast, to the Tesoro Refinery across the Inlet. Result from a risk assessment study to reduce shipping spill risk in the Inlet is expected in the next few months, but one of the major participants in the study, the Cook Inlet Regional Citizens Advisory Council, has given the pipeline its support as the safest way to move oil. MILL has received Tesoro funding for engineering, and we believe MILL would pursue the pipeline only with financial assistance from a partner. We assume JV funding could also come from Tesoro, and if so, construction could commence as early as summer 2014.

Tennessee

While the company started as a Tennessee natural gas producer, we believe its acquisition of the Cook Inlet assets relegates Tennessee to the backburner in investors' minds. However, much of the Tennessee acreage could be prospective for Mississippi Lime and Miller is testing the concept. Two horizontal wells were drilled last year, with inconclusive results. Two additional wells are planned, and one, the Brimstone H-1, should spud in about a month.

Company Overview

Description

Knoxville, TN-based Miller Energy Resources was formed over 40-years ago by Deloy Miller, and became publicly traded in 2001. It was primarily engaged and Tennessee gas development before pursuing its acquisition of selected assets of Pacific Energy Resources from bankruptcy in 2009. The Pacific Energy assets are entirely in the Cook Inlet, Alaska region, and are now the primary focus of the company. At year-end FY13 (ending April 30), the Company had estimated proved reserves of 8.6mmbbls, of which 6.6mmbbl was proved undeveloped.

Management

By obtaining the Cook Inlet assets from a bankruptcy court for under $5mn (which was pursued with the then-principal of Cook Inlet Energy and current COO David Hall) Scott Boruff, son-in-law of founder Deloy Miller, and David Hall began the transformation of Miller Energy. We have spent considerable time with management and have visited the two production facilities and onshore Rig 34, in addition to the offshore Osprey platform and Rig 35. We believe that management has secured state-of-the-art hard assets. The last several wells have proven its ability to execute its drilling plan, and demonstrate that considerable reserves were left behind.

Deloy Miller, Chairman of the Board of Directors

Deloy Miller has been Chairman of the Board of Directors since December 1996, and was Chief Executive Officer from December 1997 to August 2008. Mr. Miller has more than 40 years of experience in the drilling and production business in the Appalachian Basin. Mr. Miller serves on the Board of the Tennessee Oil & Gas Association, and in 2011 was appointed to the Federal Reserve Bank of Atlanta's Energy Advisory Council for a two-year term. Mr. Miller is also the father-in-law of Scott Boruff.

Scott M. Boruff , President and Chief Executive Officer

Mr. Boruff was elected as director and appointed as Chief Executive Officer of Miller Energy Resources in August 2008. From 2006 to 2008, Mr. Boruff was an investment banker and director with a New York investment banking firm, Cresta Capital Strategies LLC, responsible for closing transactions in the $150mn to $200mn range. Mr. Boruff specialized in investment banking consulting services that included structuring direct financing, recapitalization, mergers and acquisitions, and strategic planning with an emphasis in the oil and gas industry. As a consultant to Miller Energy Resources, Mr. Boruff led the last three major financial transactions completed by the company. He holds a Bachelor of Science in business administration from East Tennessee State University. Mr. Boruff is the son-in-law of Deloy Miller.

David Voyticky, President and Acting Chief Financial Officer

Mr. Voyticky has over 15 years of domestic and international M&A, restructuring, and financing experience. He served as a vice president with Goldman, Sachs & Co. from June 2000 to May 2002, and Houlihan Lokey Howard & Zukin Capital, Inc. in Los Angeles from July 2002 to January 2005, and as an associate with J.P. Morgan in London and New York from June 1996 to May 2000. Mr. Voyticky was a founding partner of Red Mountain Capital Partners. Mr. Voyticky also was a partner in the $300mn re-launch of Chapman Capital L.L.C., an activist hedge fund focused on the publicly traded middle market companies. He currently is a member of the board of directors for Genesis Biopharma Inc and Mosquito Consolidated Gold Mines, Ltd. Mr. Voyticky holds a J.D. and M.B.A. from the University of Michigan.

David Hall, Chief Operating Officer and President Cook Inlet Energy

Mr. Hall was the former Vice President and General Manager of Alaska Operations for Pacific Energy Resources LTD. Before that time, he served as the Production Foreman and Lead Operator in Alaska for Forest Oil Corp, rising to Production Manager for all of Alaska operation for Forest Oil. Mr. Hall has worked with the acquired Alaska assets since their construction began in 1991.

Gary Bible, Ph.D., Vice President of Geology

Dr. Bible was appointed Vice President of Geology in September 1997. Dr. Bible came from Alamco Inc., where he had served since May, 1991 as manager of geology and senior geologist. Dr. Bible earned his BS in geology from Kent State University and his MS and PhD degrees in geology from Iowa State University. He drilled his first successful wildcat as a trainee geologist. Dr. Bible brings to the company 30 years of experience as a petroleum geologist. In addition, Dr. Bible has spent more than 17 years in the Appalachian Basin in the exploration and development of reserves in the "Big Lime" zone, in Devonian shale and in deeper horizons.

David Wright, Vice President of Land

Mr. Wright serves as Vice President of Land for Miller, with more than 20 years of experience in the oil and gas business. Mr. Wright earned BS degrees in both geography and geology from Tennessee Technological University. Prior to joining Miller Petroleum, Mr. Wright directed the day-to-day activities associated with leasing, management, and exploration of more than 50,000 acres in Tennessee and Kentucky for Towner Petroleum. Mr. Wright is a member of the American Association of Professional Landmen and is a Registered Professional Geologist in the state of Tennessee.

Figure 10. Miller Energy Resources—Production and Pricing, Prices as of 9/26/13

		Jul-13	Oct-13	Jan-14	Apr-14		Jul-14	Oct-14	Jan-15	Apr-15	
	2013A	1Q14A	2Q14E	3Q14E	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E
DAILY PRODUCTION											
Daily oil (bbls/d)	**809.54**	1,254	2,829	3,682	4,883	**3,148**	5,945	6,166	6,372	6,437	**6,228**
Daily TN gas (mcf/d)	**343.12**	324	308	293	288	**303**	264	251	238	234	**247**
Daily Alaska gas Sales (mcf/d)	**-**	300	300	300	300	**302**	1,747	4,785	6,923	8,237	**5,400**
Gas equivalent (mcfe/d)	**5,220.92**	8,004	16,581	21,428	28,269	**19,340**	35,897	40,183	43,481	45,163	**41,148**
Oil equivalent (boe/d)	**870**	1,360	2,789	3,596	4,737	**3,107**	5,983	6,697	7,247	7,527	**6,858**
APOLLO PRODUCTION COVENANT BOE/D		*2,400*	*2,600*	*2,800*	*3,000*		*3,000*	*3,000*	*3,000*	*3,000*	
PRICING											
Oil (/bbls)	**$101.53**	$104.57	$105.00	$101.96	$96.68	**$100.91**	$90.00	$92.37	$92.43	$92.44	**$91.83**
TN Gas (/mcf)	**$3.41**	$3.82	$3.90	$3.76	$3.90	**$3.84**	$3.98	$4.06	$4.14	$4.22	**$4.09**
Alaska Gas (/mcf)	**$3.99**	$5.53	$5.53	$5.53	$5.53	**$5.53**	$5.53	$5.53	$5.53	$5.53	**$5.53**
Oil equivalent price (/boe)	**$94.55**	98.64	107.53	105.14	100.25	**$102.77**	$87.67	$85.73	$83.39	$82.02	**$84.54**

Sources: Company reports and Imperial Capital, LLC.

Figure 11. Miller Energy Resources—Income Statement, 2013–2015E

	2013A	Jul-13 1Q14A	Oct-13 2Q14E	Jan-14 3Q14E	Apr-14 4Q14E	2014E	Jul-14 1Q15E	Oct-14 2Q15E	Jan-15 3Q15E	Apr-15 4Q15E	2015E
INCOME STATEMENT											
Crude oil	29,447	12,258	25,958	32,808	39,912	110,936	46,762	49,782	51,477	50,310	198,331
Natural gas	468	270	263	254	247	1,034	985	2,528	3,613	4,142	11,268
Other	4,886	480	480	480	480	1,920	480	480	480	480	1,920
Total Revenues	34,801	13,008	26,701	33,542	40,639	113,890	48,227	52,790	55,570	54,932	211,520
Lease operating expense	24,698	6,265	8,922	9,294	9,747	34,229	11,008	12,323	13,334	13,398	50,064
Cost of other revenue	4,189	284	284	284	284	1,136	284	1,136	284	1,136	2,840
General and administrative	22,799	6,360	6,487	6,617	7,014	26,478	7,295	7,586	7,890	8,205	30,976
Exploration	1,458	286	700	700	700	2,386	1,000	1,000	1,000	1,000	4,000
Depreciation, depletion and amortization	13,170	5,692	10,775	13,896	14,754	45,118	16,512	18,484	16,668	16,748	68,412
Accretion of asset retirement obligations	900	297	297	297	297	1,188	297	297	297	297	1,188
Other Operating Income	(65)	0	0	0	0	0	0	0	0	0	0
Total Expenses	67,149	19,184	27,465	31,088	32,797	110,534	36,396	40,826	39,473	40,785	157,480
Operating Income	(32,348)	(6,176)	(764)	2,454	7,843	3,356	11,831	11,964	16,097	14,147	54,040
EBITDAX	(5,175)	2,072	13,602	19,994	26,400	62,068	32,558	34,780	37,218	35,475	140,030
APOLLO EBITDA/INTEREST RATIO	-1.2	0.9	3.8	4.7	6.0		7.4	7.9	8.4	8.1	
COVENANT	3.0	4.0	4.0	4.5	5.0		5.5	6.0	6.5	6.5	
EBITDA (INTEREST + PREFERRED)	-0.6	0.4	2.3	2.7	3.3		4.1	4.4	4.7	4.5	
Other Income											
Interest (income + expense)	(4,276)	(2,281)	(3,588)	(4,220)	(4,420)	(14,509)	(4,421)	(4,416)	(4,410)	(4,403)	(17,651)
Gain (loss) on derivatives, net	6,751	(3,076)	-	-	-	(3,076)	-	-	-	-	-
Other Income	(329)	(14)	-	-	-	(14)	-	-	-	-	-
Total other income (expense)	2,146	(5,371)	(3,588)	(4,220)	(4,420)	(17,599)	(4,421)	(4,416)	(4,410)	(4,403)	(17,651)
Pre-tax income	(30,202)	(11,547)	(4,353)	(1,766)	3,422	(14,243)	7,410	7,548	11,687	9,744	36,389
Income tax benefit (expense)	9,783	4,619	1,741	706	(1,369)	5,698	(2,964)	(3,019)	(4,675)	(3,898)	(14,556)
Tax rate	32.4%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Net income	(20,419)	(6,928)	(2,612)	(1,060)	2,053	(8,546)	4,446	4,529	7,012	5,847	21,833
Preferred Stock Dividends + Accretion	(5,075)	(2,489)	(2,219)	(3,312)	(3,509)	(11,529)	(3,509)	(3,509)	(3,509)	(3,509)	(14,035)
Net Income to Common	(25,494)	(9,417)	(4,831)	(4,372)	(1,455)	(20,075)	937	1,020	3,503	2,338	7,798
Adjustments											
Gain (loss) on derivatives, unrealized	5,236	(2,519)	-	-	-	(2,519)	-	-	-	-	-
Other Income (Expense)	(329)	(14)	-	-	-	(14)	-	-	-	-	-
Tax adjustment on non-recurring	(1,803)	1,002	-	-	-	1,002	-	-	-	-	-
Recurring Net Income	(28,598)	(6,884)	(4,831)	(4,372)	(1,455)	(17,542)	937	1,020	3,503	2,338	7,798

Sources: Company reports and Imperial Capital, LLC.

Figure 12. Miller Energy Resources—Discretionary Cash Flow, Per Share Data and Unit Data, 2013–2015E

CASH FLOW CALCULATION	2013A	Jul-13 1Q14E	Oct-13 2Q14E	Jan-14 3Q14E	Apr-14 4Q14E	2014E	Jul-14 1Q15E	Oct-14 2Q15E	Jan-15 3Q15E	Apr-15 4Q15E	2015E
Net income	(25,494)	(9,417)	(4,831)	(4,372)	(1,455)	(20,075)	4,446	4,529	7,012	5,847	21,833
DD&A	13,170	5,692	10,775	13,896	14,754	45,118	16,512	18,484	16,668	16,748	68,412
Amortization of deferred financing	829	280	280	280	280	1,120	280	280	280	280	1,120
Share-based compensation expense	10,459	2,544	2,595	2,647	2,806	10,591	2,918	3,035	3,156	3,282	12,390
Deferred income taxes	(9,783)	(4,619)	(1,741)	(706)	1,369	(5,698)	2,964	3,019	4,675	3,898	14,556
Unrealized loss (gain) on derivative, net	(5,236)	2,519	-	-	-	2,519	-	-	-	-	-
Accretion of asset retirement obligations	900	297	297	297	297	1,188	297	297	297	297	1,188
Accretion of preferred stock	2,866	-	-	-	-	-	-	-	-	-	-
Exploration expense	1,458	286	700	700	700	2,386	1,000	1,000	1,000	1,000	4,000
Discretionary Cash Flow	(10,831)	(2,418)	8,075	12,742	18,751	37,149	28,417	30,643	33,088	31,352	$123,600
Capital Expenditures	37,900	28,965	32,012	32,012	32,012	125,000	24,600	24,600	24,600	24,600	98,000
Free Cash Flow	(48,731)	($31,383)	($23,937)	($19,270)	($13,261)	(87,851)	$3,917	$6,143	$8,588	$6,852	25,600

PER SHARE DATA	2013A	Jul-13 1Q14A	Oct-13 2Q14E	Jan-14 3Q14E	Apr-14 4Q14E	2014E	Jul-14 1Q15E	Oct-14 2Q15E	Jan-15 3Q15E	Apr-15 4Q15E	2015E
Reported											
Earnings per share (basic)	($0.60)	($0.22)	($0.11)	($0.10)	($0.03)	($0.46)	$0.02	$0.02	$0.08	$0.05	$0.17
EPS (diluted)	($0.60)	($0.22)	($0.11)	($0.10)	($0.03)	($0.46)	$0.02	$0.02	$0.08	$0.05	$0.17
Recurring											
Recurring Earnings per share (basic)	($0.67)	($0.16)	($0.11)	($0.10)	($0.03)	($0.40)	$0.02	$0.02	$0.08	$0.05	$0.17
Recurring EPS (Diluted)	($0.67)	($0.16)	($0.11)	($0.10)	($0.03)	($0.40)	$0.02	$0.02	$0.08	$0.05	$0.17
Capital IQ consensus			($0.12)	($0.13)	($0.08)	($0.59)	NA	NA	NA	NA	$0.26
Cash flow per share (basic)	($0.25)	($0.06)	$0.18	$0.29	$0.42	$0.84	$0.63	$0.67	$0.72	$0.67	$2.69
Cash flow per share (diluted)	($0.27)	($0.06)	$0.18	$0.29	$0.42	$0.83	$0.63	$0.67	$0.72	$0.67	$2.69
Basic shares oustanding	42,683	43,455	43,890	44,329	44,772	44,111	45,220	45,672	46,128	46,590	45,902
Diluted shares outstanding	42,683	43,455	43,890	44,329	44,772	44,111	45,220	45,672	46,128	46,590	45,902

PER UNIT DATA	2013A	1Q14A	2Q14E	3Q14E	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E
DD&A/bbl	$41.47	$45.51	$42.00	$42.00	$35.00	$39.78	$30.00	$30.00	$25.00	$25.00	$27.33
LOE/bbl	$77.76	$50.09	$34.78	$28.09	$23.12	$30.18	$20.00	$20.00	$20.00	$20.00	$20.00
G&A/bbl	$71.78	$50.85	$25.29	$20.00	$16.64	$23.35	$13.25	$12.31	$11.83	$12.25	$1.13
All-in costs/bbl	$191.01	$146.44	$102.07	$90.09	$74.76	$93.32	$63.25	$62.31	$56.83	$57.25	$48.46

Sources: Company reports and Imperial Capital, LLC.

Figure 13. Miller Energy Resources—Balance Sheet, 2012–2015E

	Apr-12 4Q12A	Jul-12 1Q13A	Oct-12 2Q13A	Jan-13 3Q13A	Apr-13 4Q13A	Jul-13 1Q14A	Oct-13 2Q14E	Jan-14 3Q14E	Apr-14 4Q14E	Jul-14 1Q15E	Oct-14 2Q15E	Jan-15 3Q15E	Apr-15 4Q15E
ASSETS													
Current Assets													
Cash and cash equivalents	3,971	1,892	4,343	1,492	2,551	3,125	14,438	12,168	2,907	8,824	18,968	29,555	40,407
Restricted cash	2,250	1,605	13,069	2,985	7,531	3,946	3,946	3,946	3,946	3,946	3,946	3,946	3,946
Accounts Receivables													
Customers and other	3,107	2,880	1,900	2,276	3,204	8,008	8,008	8,008	8,008	8,008	8,008	8,008	8,008
State production credits receivable	2,958	2,958	2,894	2,793	12,713	18,355	18,355	18,355	18,355	18,355	18,355	18,355	18,355
Inventory	1,835	1,866	1,748	2,164	3,382	2,518	2,518	2,518	2,518	2,518	2,518	2,518	2,518
Prepaid expenses	482	1,887	1,557	1,579	1,183	4,176	4,176	4,176	4,176	4,176	4,176	4,176	4,176
Total current assets	**14,603**	**13,088**	**25,511**	**13,289**	**30,564**	**40,128**	**51,441**	**49,171**	**39,910**	**45,827**	**55,971**	**66,558**	**77,410**
Non-Current Assets													
Oil and gas properties, net	475,802	478,131	481,055	490,790	486,009	503,822	525,059	543,174	560,431	568,419	574,435	582,267	590,019
Equipment, net	33,728	39,020	41,142	42,028	42,876	42,460	42,460	42,460	42,460	42,460	42,460	42,460	42,460
Other Long-Term Assets													
Land	542	542	542	542	542	542	542	542	542	542	542	542	542
Restricted Cash, non-current	9,875	9,880	9,948	10,132	10,207	11,196	11,196	11,196	11,196	11,196	11,196	11,196	11,196
Deferred financing costs, net	1,426	5,231	5,171	4,945	4,666	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386
Other	413	624	731	761	541	556	556	556	556	556	556	556	556
Total Assets	**536,389**	**546,516**	**564,100**	**562,487**	**575,405**	**603,090**	**635,640**	**651,486**	**659,482**	**673,386**	**689,545**	**707,966**	**726,569**
LIABILITIES													
Current Liabilities													
Accounts payable	9,504	11,785	12,884	18,602	13,129	27,279	27,279	27,279	27,279	27,279	27,279	27,279	27,279
Accrued expenses	6,744	5,172	6,075	2,970	6,338	6,914	6,914	6,914	6,914	6,914	6,914	6,914	6,914
Short-term portion of derivative instruments	2,803	1,396	2,055	3,137	842	1,707	1,707	1,707	1,707	1,707	1,707	1,707	1,707
Current portion of long term liabilities	24,130	1,500	3,000	4,500	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Total current liabilities	**43,181**	**19,853**	**24,014**	**29,209**	**26,309**	**41,900**	**41,900**	**41,900**	**41,900**	**41,900**	**41,900**	**41,900**	**41,900**
Long-term Liabilities													
Deferred income taxes	167,319	168,440	164,699	160,768	157,530	152,911	154,652	155,358	153,990	151,026	148,007	143,332	139,434
Asset retirement obligations	18,366	18,650	18,935	19,219	19,890	20,192	20,494	20,796	21,098	21,400	21,702	22,004	22,306
Long-term portion of derivative instruments	7,700	1,716	224	-	-	1,654	1,654	1,654	1,654	1,654	1,654	1,654	1,654
Long term debt	-	38,500	39,216	37,734	51,559	51,577	75,000	75,000	75,000	75,000	75,000	75,000	75,000
Total long-term liabilities	**193,385**	**227,306**	**223,074**	**217,721**	**228,979**	**226,334**	**251,800**	**252,808**	**251,742**	**249,080**	**246,363**	**241,990**	**238,394**
Total Liabilities	**236,566**	**247,159**	**247,088**	**246,930**	**255,288**	**268,234**	**293,700**	**294,708**	**293,642**	**290,980**	**288,263**	**283,890**	**280,294**
STOCKHOLDERS' EQUITY													
Preferred stock	8,818	-	14,458	16,647	31,236	53,633	88,233	103,233	103,233	103,233	103,233	103,233	103,233
Common stock	4	4	4	4	4	4	4	4	4	4	4	4	4
Additional paid-in capital	64,813	72,976	82,441	85,093	88,184	89,913	67,258	71,467	81,985	97,615	115,471	134,761	154,622
Retained earnings	226,188	226,377	220,109	213,813	200,693	191,276	186,445	182,073	180,618	181,555	182,575	186,078	188,416
Total stockholders' equity	**299,823**	**299,357**	**317,012**	**315,557**	**320,117**	**334,856**	**341,940**	**356,777**	**365,840**	**382,407**	**401,283**	**424,076**	**446,275**
Total liabilities and equity	**536,389**	**546,516**	**564,100**	**562,487**	**575,405**	**603,090**	**635,640**	**651,486**	**659,482**	**673,386**	**689,545**	**707,966**	**726,569**

Sources: Company reports and Imperial Capital, LLC.

Risk Factors

While we present some company risks here, investors are encouraged to read a full discussion of risks as presented in the company's SEC filings. The risks below may prevent price appreciation of MILL shares.

- **Commodity Risk**

  While MILL maintains an active hedging program, decreases in commodity prices would still adversely affect revenue, margins, IRRs and the ability to repay debt and reinvest capital.

- **Geologic/Engineering Risk**

  Unexpectedly poor results due to geology and limitations of drilling, engineering, and completion could cause results that are lower than production guidance, or even cause part of the company's leasehold to be condemned.

- **Regulatory/Environmental Risk**

  GDP produces oil and gas, a highly regulated business. The Cook Inlet, in particular, has stricter regulatory requirements than the lower-48, due to the sensitive and unique environment. Additional regulations could adversely impact the company's business.

- **Access to Services Risk**

  The company relies on service providers to drill and complete its wells. Competition for goods and services could delay completions and/or raise costs

- **Natural disaster/weather Risk**

  Miller operates in a seismically active region at the margin between the Pacific and North American tectonic plates. Its operations are at risk for volcanism, earthquakes and tsunamis. Adverse weather, which is commonplace in Alaska, can cause delays or shut-ins.

- **Litigation**

  Miller is involved in several disputes, which are detailed in company filings.

Price Chart and Ratings History

Initiating Coverage

Companies under coverage: Kim Pacanovsky: Miller Energy Resources (MILL)

Important Disclosures, Certifications and Other Information

Ratings Distribution and Definitions

		Equity Ratings Definitions (as of 7/1/09)
Outperform	57.45%	**Outperform**: TRR expected to exceed basket by at least 10%
In-Line	38.83%	**In-Line**: TRR expected to be in-line with basket
Underperform	3.72%	**Underperform**: TRR expected to underperform basket by at least 10%

This Equity Ratings Distribution reflects the percentage distribution for rated equity securities for the twelve month period 7/1/12 through 6/30/13. Rating definitions are expressed as the total rate of return (TRR) relative to the expected performance of a basket of like securities over a 12-month period. Within the twelve month period ended 6/30/13, IC has provided investment banking services to 6.48% of companies with equity rated an Outperform, 0.00% of companies with equity rated an Underperform, and 4.11% of companies with equity rated an In-Line. As of 6/30/13.

Fixed Income Ratings Definitions and Equity Ratings Definitions (prior to 7/1/09)

Buy: TRR expected to exceed basket by at least 10%
Hold: TRR expected to be in-line with basket
Sell: TRR expected to underperform basket by at least 10%

Rating definitions are expressed as the total rate of return (TRR) relative to the expected performance of a basket of like securities over a 12-month period. Please refer to our publication dated 7/1/09 for details associated with the transition of our Equity Ratings to the current definitions.

For a discussion of the valuation methods used to determine our price target, please see page(s) 2-3. See page 17 for the risks that may impede achievement of such price target, and page 17 for our ratings history and price chart.

Analyst Certification: *Each research analyst whose name appears in bold on the front page certifies that: (1) the views expressed in this report reflect the analyst's personal views about the subject securities or issuers; and (2) none of the analyst's compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed herein. The analyst(s) responsible for the preparation of this report receive(s) compensation primarily based upon individual performance (e.g., productivity and quality of work) and the overall financial performance of Imperial Capital, LLC, including overall revenues from investment banking activities.*

COMPANY	DISCLOSURE
Miller Energy Resources	7

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[4] As of 8/31/13, IC or its affiliates beneficially own 1% or more of any class of common equity securities of this entity.
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[11] IC had (and/or currently has) a financial advisory relationship with certain creditors or equity holders with respect to the entity during the past 12 months.

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*Disclosure items appropriate to each entity, if any, are indicated.

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FLASH NOTE

BREAN CAPITAL, LLC

Miller Energy Resources Inc. (MILL, $4.86, Buy, $9.00 Target Price)
August 20, 2014

Curtis Trimble, 713-444-3560
ctrimble@breancapital.com

Miller Reports 11.7% Increase to Total Proven Reserves

Investment Summary

Earlier Today, Miller Energy reported an 11.7% sequential increase in proved reserves to 11.7 Mboe from the 10.5 Mboe reported earlier this year for April 30, 2014. The increase was driven by bookings of new reserves to the proven developed category (PDP) of 6.4 Mboe compared to 6.1 Mboe and the proven undeveloped category (PUD) of 5.3 Mboe compared to 4.4 Mboe as reported on 30 April 2014. In a separate announcement, the company also informed the market that it would embark on a new underwritten public offering of 10.5% Series D Fixed Rate/Floating Rate Cumulative Redeemable Preferred Stock. No further details on the size of the offering were immediately forthcoming.

Key Points

- In a press release earlier today, Miller Energy announced Total Proved Reserves of 11.7 Mboe, comprising of 6.4 Mboe in PDP reserves and 5.3 Mboe In PUD reserves. This presented favorably to the last reported balance at 30 April 2014, where Total Proved Reserves stood at 10.5 Mboe, with PDP's of 6.1 Mboe and PUD's of 4.4 Mboe respectively. The increase was largely driven by the 20% sequential expansion of PUD reserve as a result of successful drilling efforts in the Redoubt, West McArthur River and North Fork oil fields. Looking forward, meaningful additions to reserves are expected, as the company delivers results from the RU-9 well, which is situated in a new fault block, and Miller commences drilling on the previously untested Sabre prospect.
- In a separate announcement Miller Energy advised that it had commenced a new underwritten public offering of its 10.5% Series D Fixed Rate/Floating Rate Cumulative Redeemable Preferred Stock, with proceeds from the issue to be used for general corporate purposes according to the company. No details were immediately forthcoming regarding the size of the raise.
- The increase in proved reserves for Miller vs. a negative revision to proved reserves earlier this year, which we think was much more closely related to a change in the company's independent reserve engineering firm than to any change in asset quality or ultimate deliverability, should assuage many investors' concerns. Efficiently drilling and completing wells will affect Miller's performance to a far more impactful degree than shuffling reserves around their various categories.

Valuation / Target Price

We arrive at our $9 price target for MILL shares using a production-driven DCF methodology combined with a 16.0% WACC, $85/bbl crude oil, and $4.50/mcf natural gas. The key driver of our production estimates are the 133 future drilling locations we estimate MILL retains in Alaska on its more than 680,000 net acres of leasehold.

EXHIBIT
PENGAD 800-631-6989
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6/4/19 AG

Company Description

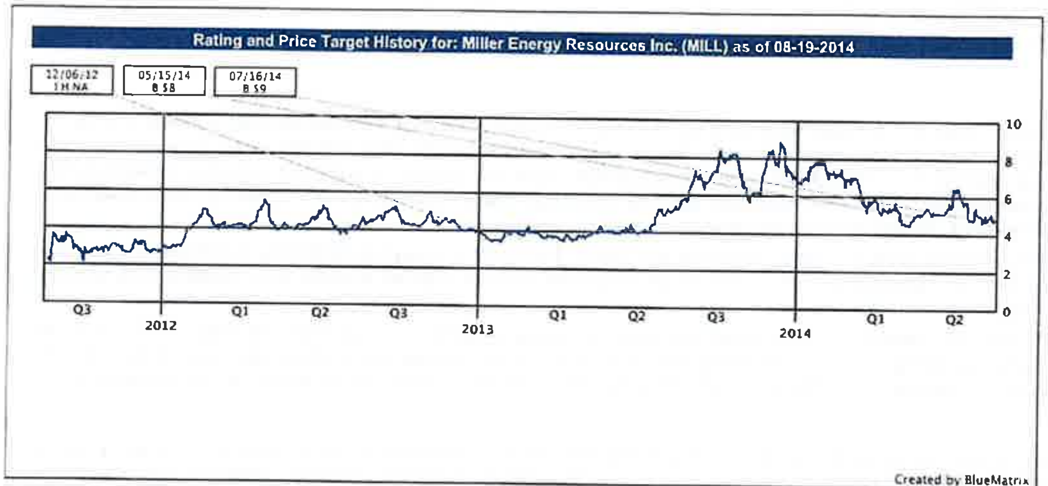
Based in Knoxville, TN, Chairman of the Board Deloy Miller founded Miller Energy Resources in the 1970s. Historically an Appalachian Basin producer before the company's 2009 entry into Alaska, Miller drilled over 5,200 wells from New York to Alabama. Since entering Alaska several years ago, Miller remained acquisitive in that area while also increasing the company's level of drilling activity in Alaska.

Risks

Miller Energy Resources Inc. (MILL) As a comparatively small operator in the notoriously harsh Alaska oil and gas sector, Miller incurs out-sized risks with respect to its ability to predictably execute day-to-day drilling and production operations. Also, the geology in Alaska remains particularly challenging, placing the company's estimates of activity levels and their resulting benefits at risk. Further, the markets for energy equities and the crude oil and natural gas commodities which they sell remain volatile, affecting the company's market reception and access to future financing.

Important Disclosures

Ratings and Target Price History



At the time this report was published, Brean Capital, LLC made a market in the securities of Miller Energy Resources Inc. .

In the normal course of its business, Brean Capital, LLC intends to seek compensation for investment banking or non-investment banking services from the companies in its coverage universe. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decisions.

The research analyst(s) or research associate(s) principally responsible for the preparation of this research report has received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors and firm revenues. The compensation is determined exclusively by research management and senior management (not including investment banking).

Brean Capital, LLC Stock Rating System

Buy - Expected to appreciate by at least 10% within the next 12 months.

Hold - Fully valued, not expected to appreciate or decline materially within the next 12 months.

Sell - Expected to decline by at least 10% within the next 12 months.

			IB Serv./ Past 12Mos.	
Rating Category	**Count**	**Percent**	**Count**	**Percent**
BUY	125	75.30%	19	15.20%
HOLD	37	22.29%	1	2.70%
SELL	4	2.41%	0	0.00%
NOT RATED				

Note: Stock price volatility may cause temporary non-alignment of some ratings with some target prices.

Analyst Certification

I, Curtis Trimble, hereby certify that the views expressed in this research report accurately reflect our personal views about any and all of the subject securities or issuers referred to in this document. The analyst and associate analyst further certify that they have not received and will not be receiving direct or indirect compensation in exchange for expressing the recommendation contained in this publication.

Disclaimers

Additional information is available upon request.

FLASH NOTE

BREAN CAPITAL, LLC

Miller Energy Resources Inc. (MILL, $5.05, Buy, $9.00 Target Price)
August 21, 2014

Curtis Trimble, 713-444-3560
ctrimble@breancapital.com

Tax Rebates To Support Drilling Capex For 2H14

Investment Summary

Miller Energy announced today that it received $31.2MM in capex rebates from the Alaskan authorities which it intends to reimburse for cash over the coming weeks. In connection with an announcement made yesterday, management also confirmed that it priced an offering of 750,000 shares of Series D Preferred Stock for a price of $24.50 per share, successfully raising $18.4MM in gross proceeds. The drilling rebates, together with proceeds from the Preferred and $24MM in available borrowing capacity on the company's revolver, provide Miller with a minimum of $70MM in near-term liquidity. This liquidity, along with cash flow, should be more than adequate to meet the company's estimated drilling program requirements of $71.8MM over the remainder of 2014.

Key Points

- In a press release earlier today, Miller Energy announced it received a certificate for $31.2MM in tax credits, which management anticipates converting to cash over the next few weeks. The rebates help deliver $70MM in near-term liquidity to the company, composed of $18.4MM of gross proceeds from the Series D Preferred Stock offering announced earlier today, $24MM in available capacity on the company's revolver, and the tax rebates. Coupled with projected cash flow from operations and cash on hand of $13.7MM, we anticipate Miller will have more than sufficient liquidity to meet its estimated drilling program requirements of $71.8MM over the remainder of 2014.
- In a separate announcement earlier this morning, Miller confirmed that it had successfully priced 750K of Series D Preferred Stock at $24.50 per share, resulting in gross proceeds of $18.4MM. Closing of the offering is scheduled for August 25, 2014, subject to customary closing conditions. Management intends to use the net proceeds, if any, from the offering for general corporate purposes

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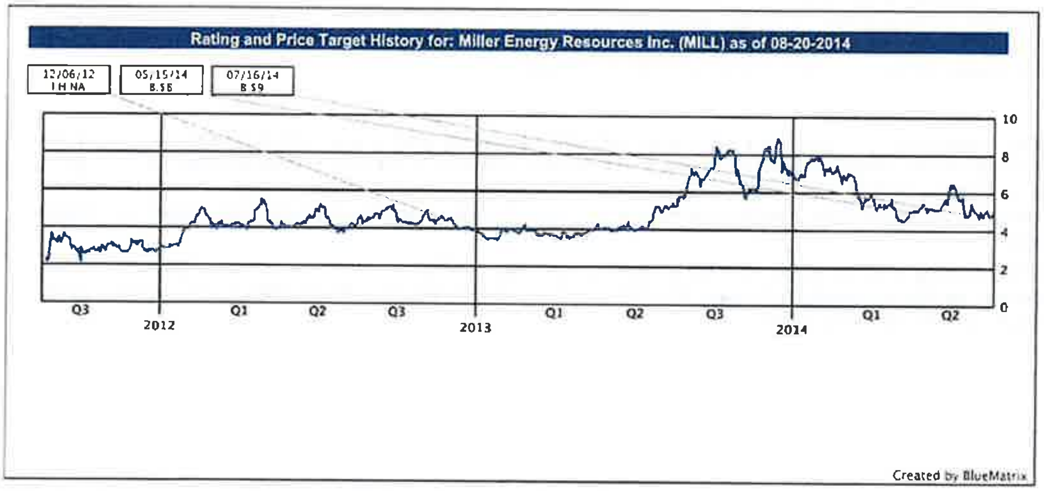

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NOT RATED				

Note: Stock price volatility may cause temporary non-alignment of some ratings with some target prices.

Valuation / Target Price

We arrive at our $9 price target for MILL shares using a production-driven DCF methodology combined with a 16.0% WACC, $85/bbl crude oil, and $4.50/mcf natural gas. The key driver of our production estimates are the 133 future drilling locations we estimate MILL retains in Alaska on its more than 680,000 net acres of leasehold.

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Disclaimers

Additional information is available upon request.

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EQUITY RESEARCH
Exploration & Production

MLV & Co

Company Update

September 8, 2014

TICKER	NYSE: MILL
RATING	BUY
PRICE TARGET	$8.00
Price (September 05 , 2014)	$4.68

Miller Energy Resources

PROGRESSING: Updated Reserve Report Reinforces Investment Thesis, Reiterate Buy Rating

Market Data and Valuation Multiples

Market Cap (M):	$216.7
Shares out (M):	46.3
Float (M):	33.3
Daily Vol, 3 Mo Avg (M):	0.4
52-Week Range:	$8.97-$4.40
Cash & Cash Eq (M):	$5.7
Debt (M):	$184.2

Financial Metrics

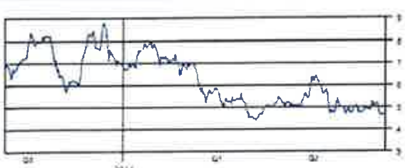
EPS	1Q	2Q	3Q	4Q	FY
2014	-0.18A	-0.15A	-0.13A	-0.34A	-0.80A
2015	-0.12E	-0.09E	-0.04E	-0.01E	-0.26E
2016	0.04E	0.05E	0.07E	0.09E	0.25E

CFPS	1Q	2Q	3Q	4Q	FY
2014	-0.02A	0.13A	0.11A	0.05A	0.27A
2015	0.24E	0.33E	0.47E	0.54E	1.58E
2016	0.64E	0.67E	0.72E	0.77E	2.80E

Nat Gas (mmcf/d)	1Q	2Q	3Q	4Q	FY
2014	0.6A	0.8A	0.4A	7.1A	2.2A
2015	9.5E	9.6E	9.8E	10.0E	9.7E
2016	10.2E	10.4E	10.6E	10.8E	10.5E

Oil (mb/d)	1Q	2Q	3Q	4Q	FY
2014	1.3A	2.0A	2.4A	1.9A	1.9A
2015	2.4E	2.9E	3.6E	4.2E	3.3E
2016	4.7E	5.0E	5.4E	5.8E	5.2E

1-Year Price History



Created by BlueMatrix

cmabry@mlvco.com 832-319-2520

Updated reserve report demonstrates progress, validates RU-9

MILL's proved reserves in Alaska increased by 10% to 11.7 MMBoe at the end of fiscal Q1'15 (from 10.5 MMBoe at fiscal YE'14) while its corresponding PV-10 climbed by 19% to ~$448 million (from ~$361). The growth is being driven by PUDs which increased to 5.3 MMBoe (from 4.4) as the RU-9 well was brought back onto the books after being removed at fiscal YE'14. In our view, the move is a strong validation of the prospect by the company's new independent reserve engineers: Ryder Scott & Co. RU-9 was booked at ~0.5 MMBo gross (~0.4 net), but we'd expect it to be converted to PDP by its next report and revised up toward its 2P estimate of ~0.8 MMBo with production history. We'd note that PD reserves also posted an increase, to 6.4 MMBoe (from 6.1), due to upward revisions at WMRU. Refer to **Exhibit 1** for a more detailed analysis.

We view the updated reserve report as a positive for MILL as it demonstrates progress in the development of its Alaska assets. We reiterate our $8 NAV-based price target and Buy rating and expect continued execution to drive stock outperformance.

Upcoming drilling results to provide multiple catalysts

The company is in the process of an active drilling campaign and has a number of upcoming catalysts which could provide some momentum for the stock. Its next is the aforementioned RU-9 South Stepout well, a large 4-way structure located ~2.5 miles southwest of the Osprey platform, which has been drilled, logged, and cased to TD. We expect the well to be online any day at an estimated gross rate of ~750 Bo/d. MILL then plans to drill the RU-12 North Stepout well which is not included in its proved reserves as it will test a separate fault block. We are forecasting the well to come online at ~750 Bo/d in fiscal Q3'15. At WMRU, the company plans to begin drilling the Sabre-1 exploration well this fall. This sizeable oil prospect (est. 5-10 MMBbl) could be very meaningful to MILL if successful and would be incremental to our reserve and production forecast.

Liquidity enhanced by preferred stock issuance and tax credits

Late last month, MILL closed its offering of 750,000 shares of 10.5% Series D Preferred Stock at a price of $24.50/share. Net proceeds of ~$17.1 million are expected to be used for general corporate purposes. Separately, the company also received a certificate for ~$31.2 million of tax credits (inline with expectations as MILL had ~$49.1 million of net production credits receivables at April 30). The credits have been submitted for reimbursement and are anticipated to be received in cash over the next few weeks. Following the preferred stock issuance and tax credit, we expect the company to exit fiscal Q2'15 with >$40 million of liquidity. This should be sufficient to fund its capital budget through fiscal 2016.

Fiscal Q1'15 preview: revising production forecast and estimates lower

We're trimming our fiscal Q1'15 production forecast to 3.9 MBoe/d net (from 4.7) to account for downtime during drilling and completion. For the quarter, our EPS/CFPS estimates slide to ($0.12)/$0.24 from ($0.08)/$0.35 as a result, but remain above consensus expectations of ($0.19)/$0.19. MILL hosts its earnings call on Wednesday, September 10, at 10:30 Eastern.

Exhibit 1: Alaska Proved Reserves Variance Analysis

Total Proved Reserves as of July 31, 2014

Area	Oil (MBbl)	Gas (MMcf)	MBoe	PV10 ($MM)	$/Boe
Redoubt Shoal	2,832	0	2,832	$152.4	$53.81
West McArthur River	4,448	0	4,448	$207.3	$46.60
West Foreland	0	2,480	413	$14.2	$34.29
Three Mile Creek	0	96	16	$0.3	$16.43
North Fork	0	23,995	3,999	$73.5	$18.38
Total Proved	**7,280**	**26,571**	**11,708**	**$447.6**	**$38.23**

Total Proved Reserves (%) as of July 31, 2014

Area	Oil (MBbl)	Gas (MMcf)	MBoe	PV10 ($MM)
Redoubt Shoal	39%	0%	24%	34%
West McArthur River	61%	0%	38%	46%
West Foreland	0%	9%	4%	3%
Three Mile Creek	0%	0%	0%	0%
North Fork	0%	90%	34%	16%
Total Proved	**100%**	**100%**	**100%**	**100%**

Total Proved Reserves as of April 30, 2014

Area	Oil (MBbl)	Gas (MMcf)	MBoe	PV10 ($MM)	$/Boe
Redoubt Shoal	2,409	0	2,409	$118.5	$49.19
West McArthur River	3,551	0	3,551	$166.5	$46.89
West Foreland	0	2,503	417	$1.7	$4.04
Three Mile Creek	0	101	17	$0.2	$10.85
North Fork	0	24,726	4,121	$74.0	$17.95
Total Proved	**5,960**	**27,330**	**10,515**	**$360.9**	**$34.32**

Total Proved Reserves (%) as of April 30, 2014

Area	Oil (MBbl)	Gas (MMcf)	MBoe	PV10 ($MM)
Redoubt Shoal	40%	0%	23%	33%
West McArthur River	60%	0%	34%	46%
West Foreland	0%	9%	4%	0%
Three Mile Creek	0%	0%	0%	0%
North Fork	0%	90%	39%	20%
Total Proved	**100%**	**100%**	**100%**	**100%**

	%Δ	%Δ	%Δ	%Δ
Redoubt Shoal	15%		15%	22%
West McArthur River	20%		20%	20%
West Foreland		-1%	-1%	88%
Three Mile Creek		-5%	-5%	31%
North Fork		-3%	-3%	-1%
Total Proved	**18%**	**-3%**	**10%**	**19%**

Source: Company Reports, MLV & Co. Research

Takeaways:

- MILL's Alaska proved reserves increased by 10% q/q led by an 18% uptick in oil volumes.
- The company's 2 core areas, Redoubt and WMRU, were its main drivers with q/q gains of 15% and 20%.
- At Redoubt, the delta was attributable to the RU-9 well which was added back as a PUD at 415 MBoe net (100% oil). Its 2P reserves are listed at ~700 MBoe net.
- At WMRU, the delta is being driven by positive reserve revisions to the following PDP wells: Sword (+14% on the addition of the Tyonek), WMRU-5 (+17% on flatter declines), and WMRU-6 (+20% on flatter declines).
- WF-3 was reclassed to PDBP (from PUD) at 2.2 Bcf with a PV-10 of $15.2 million (from $2.7).
- The company's PV-10 increased by 19% q/q, indicating an improvement in per-unit value.

Fiscal 2015 and 2016 estimates revised down on a lower production forecast

We're taking a more conservative view of our production forecast to account for downtime during D&C activity. Our f2015 forecast slides to 4.9 MBoe/d (from 5.8), taking our EPS/CFPS estimates to ($0.26)/$1.58 from ($0.01)/$2.17. Our f2016 forecast slides to 7.0 MBoe/d (from 7.6), taking our EPS/CFPS estimates to $0.25/$2.80 from $0.34/$3.10.

Exhibit 2: Summary Financial Model ($MM except per unit data; fiscal year-end April)

	Q1-14	Q2-14	Q3-14	Q4-14	Q1-15E	Q2-15E	Q3-15E	Q4-15E	2013	2014	2015E	2016E
E&P UNIT DATA												
Natural Gas:												
Production (MMcf/d)	0.6	0.8	0.4	7.1	9.5	9.6	9.8	10.0	0.4	2.2	9.7	10.5
Price ($/Mcf)	4.63	3.91	3.39	6.99	5.96	5.96	5.96	5.96	3.52	6.26	5.96	5.97
Benchmark	3.83	3.57	3.89	5.52	4.37	4.33	4.50	4.42	3.20	4.20	4.41	4.27
Crude Oil:												
Production (MBbl/d)	1.3	2.0	2.4	1.9	2.4	2.9	3.6	4.2	0.8	1.9	3.3	5.2
Price ($/Bbl)	104.57	102.65	94.58	104.56	105.41	102.00	101.15	98.60	101.53	100.85	101.07	96.20
Benchmark	98.50	104.31	95.56	101.14	103.34	100.00	99.17	96.67	91.06	99.88	99.79	94.38
Total Production (MBoe/d)	**1.4**	**2.1**	**2.4**	**3.1**	**3.9**	**4.5**	**5.2**	**5.9**	**0.9**	**2.2**	**4.9**	**7.0**
Per Boe:												
Lifting Costs	50.09	31.89	25.83	27.58	18.42	16.94	15.34	14.60	77.74	31.47	16.09	13.05
DD&A	45.51	46.66	33.91	40.90	32.00	32.00	32.00	32.00	41.46	40.91	31.95	29.98
G&A	50.85	36.97	30.34	38.98	20.71	17.02	13.49	11.46	71.76	37.82	15.15	9.41
FD&A	NA	NA	NA	NA	NA	NA	NA	NA	NM	67.92	20.14	25.20
INCOME STATEMENT												
E&P Revenues	12.0	17.5	17.4	20.7	27.9	32.6	39.1	42.4	31.4	67.6	142.1	207.9
Non-E&P Revenues	0.5	0.1	0.2	0.3	0.4	0.4	0.4	0.4	4.9	1.1	1.6	1.6
Total Revenues	12.5	17.6	17.6	21.1	28.3	33.0	39.5	42.8	36.3	68.7	143.7	209.5
Exploration Expense	0.3	0.1	0.4	1.2	0.5	0.5	0.5	0.5	1.5	2.0	2.0	2.0
Lifting Costs	6.3	6.2	5.8	7.5	6.7	7.0	7.4	7.6	24.7	25.8	28.7	33.3
DD&A	5.7	9.0	7.6	11.2	11.6	13.2	15.4	16.7	13.2	33.5	56.9	76.5
G&A	6.4	7.1	6.8	10.7	7.5	7.0	6.5	6.0	22.8	31.0	27.0	24.0
Operating Income	(6.2)	(4.9)	(3.0)	(9.5)	2.1	5.4	9.7	12.0	(25.8)	(23.6)	29.1	73.7
Interest Expense	2.3	1.4	0.4	3.4	5.2	5.6	5.5	5.6	4.3	7.5	21.9	23.6
Other Income	(0.0)	(0.0)	0.0	(0.9)	0.0	0.0	0.0	0.0	(0.3)	(0.9)	0.0	0.0
Nonrecurring Items	(2.5)	(3.0)	(1.3)	(2.3)	0.0	0.0	0.0	0.0	5.2	(9.1)	0.0	0.0
Pretax Income	(11.5)	(9.8)	(5.3)	(16.8)	(3.8)	(0.9)	3.4	5.6	(30.2)	(43.5)	4.4	47.3
Income Taxes	(4.6)	(4.9)	(2.2)	(3.2)	(1.5)	(0.3)	1.4	2.2	(9.8)	(14.9)	1.7	18.9
Aftertax Income	(6.9)	(5.0)	(3.1)	(13.5)	(2.3)	(0.5)	2.0	3.4	(20.4)	(28.6)	2.6	28.4
Extraordinary Items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preferred Dividends	2.5	3.3	3.7	3.7	3.4	3.6	3.8	3.8	5.1	13.2	14.6	15.4
Net Income	(9.4)	(8.3)	(6.8)	(17.2)	(5.7)	(4.1)	(1.8)	(0.5)	(25.5)	(41.8)	(12.0)	13.0
FD Shares Outstanding	45.8	46.5	47.3	47.7	48.2	48.7	49.2	49.7	45.1	46.8	49.0	51.0
EPS	**($0.22)**	**($0.19)**	**($0.15)**	**($0.38)**	**($0.12)**	**($0.09)**	**($0.04)**	**($0.01)**	**($0.60)**	**($0.94)**	**($0.26)**	**$0.25**
Operating EPS	**($0.18)**	**($0.15)**	**($0.13)**	**($0.34)**	**($0.12)**	**($0.09)**	**($0.04)**	**($0.01)**	**($0.68)**	**($0.80)**	**($0.26)**	**$0.25**
DCFPS	**($0.02)**	**$0.13**	**$0.11**	**$0.05**	**$0.24**	**$0.33**	**$0.47**	**$0.54**	**($0.27)**	**$0.27**	**$1.58**	**$2.80**
CASH FLOW STATEMENT												
Discretionary Cash Flow	(0.9)	5.7	5.0	2.1	10.8	15.4	21.9	25.4	(11.5)	11.8	73.5	136.0
EBITDAX	1.1	5.8	5.9	5.1	16.0	20.9	27.4	31.1	(5.1)	17.8	95.4	159.6
Asset Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Dividends Paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Expenditures	18.3	41.3	22.5	100.7	39.2	27.0	34.0	35.0	37.9	182.8	135.2	160.0
BALANCE SHEET												
Cash	7.1	22.6	17.3	6.4	5.0	10.5	5.0	5.0	10.1	6.4	5.0	5.0
Current Assets	40.1	41.1	51.5	71.2	69.8	75.3	69.8	69.8	30.6	71.2	69.8	69.8
PP&E (net)	546.3	590.5	603.7	680.2	703.6	714.4	729.3	743.8	528.9	680.2	743.8	810.1
Current Liabilities	41.9	44.4	60.8	74.9	74.9	74.9	74.9	74.9	26.3	74.9	74.9	74.9
Debt	57.6	74.0	74.3	184.2	210.8	210.8	217.3	227.3	57.6	184.2	227.3	250.3
Preferred Stock	53.7	85.0	97.0	97.8	97.8	116.2	116.2	116.2	31.2	97.8	116.2	116.2
Stockholders' Equity	281.2	277.1	269.0	252.7	247.1	243.0	241.2	240.7	288.9	252.7	240.7	253.7
RESERVES												
Year-end Reserves (MMBoe)	NA	NA	NA	NA	NA	NA	NA	NA	8.6	10.7	15.1	18.5
Reserves/Production	NA	NA	NA	NA	NA	NA	NA	NA	27.1	13.1	8.5	7.3
Year-end Proved Asset Value	NA	NA	NA	NA	NA	NA	NA	NA	253.7	294.2	645.4	774.9
DCFPS SENSITIVITIES												
Per $0.15/Mcf change in natural gas prices	NA	NA	NA	NA	NA	NA	NA	NA	NM	1.0%	0.7%	0.4%
Per $1.00/Bbl change in crude oil prices	NA	NA	NA	NA	NA	NA	NA	NA	NM	5.8%	1.6%	1.4%

Source: Company Reports, MLV & Co. Research

VALUATION

We use a DCF-based net asset value (NAV) approach to value E&P stocks. Our NAV calculation is derived from the company's SEC PV10, adjusted for our long-term price deck. To this we add a risked valuation of the company's upside potential and other non-E&P assets, before subtracting net debt. We believe this methodology is a more effective means of comparing companies with significantly different asset profiles and provides a more accurate accounting of a company's upside potential. We arrive at our target price by applying a 1x multiple to our NAV valued at long-term commodity prices of $95/Bbl (WTI) and $4.50/Mcf (Henry Hub).

INVESTMENT RISK

Exploration and production companies face a number of market, business, and sector risks including, but not limited to the following:

- Commodity price risk
- Capital markets risk
- Operational risk
- Regulatory and environmental risk
- Weather related delays/downtime
- Midstream constraints

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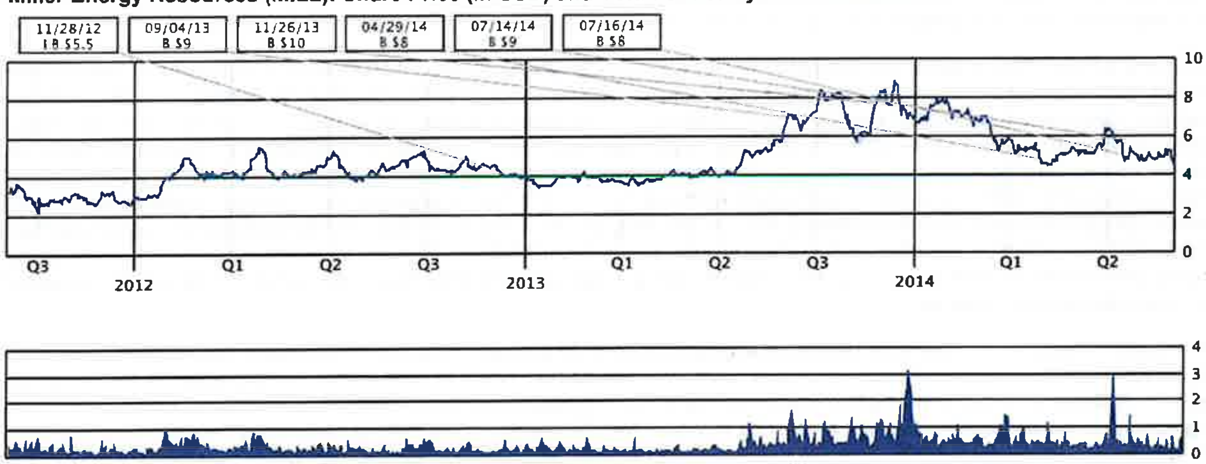
All required current disclosures on subject companies covered in this report may be obtained by contacting Randy Billhardt at MLV at 212-542-5882 or rbillhardt@mlvco.com.

Miller Energy Resources (MILL): Share Price (in USD) and Volume History as of 09-05-2014



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MLV RATING ALLOCATION (as of September 08, 2014)

E&P Rating System

Buy: The stock's total return is expected to outperform the relevant benchmark over the next 12 months.

Hold: The stock's total return is expected to be in line with the relevant benchmark over the next 12 months.

Sell: The stock's total return is expected to underperform the relevant benchmark over the next 12 months.
*Benchmark is defined as the Oil Exploration and Production Index (Bloomberg ticker: EPX Index).

	COMPANIES UNDER COVERAGE		INVESTMENT BANKING SERVICE WITHIN 12 MONTHS	
Rating	Count	Percent	Count	Percent
BUY	91	61.49%	42	28.38%
HOLD	57	38.51%	21	14.19%
SELL	0	0.00%	0	0.00%

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MLV & Co

Earnings Review

December 10, 2014

TICKER	NYSE: MILL
RATING	BUY
PRICE TARGET	$3.00
Price (December 10, 2014)	$1.16

Market Data	
Market Cap (M):	$54.1
Shares out (M):	46.6
Float (M):	35.2
Daily Vol, 3 Mo Avg (M):	0.7
52-Week Range:	$8.97-$0.99
Cash & Cash Eq (M):	$14.5
Debt (M):	$219.0
NAV (M):	NA

Financial Metrics	
Yield (Annualized %):	NM

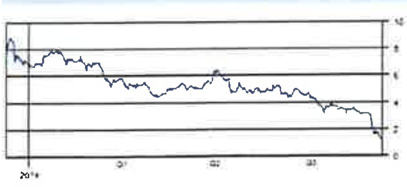
EPS	1Q	2Q	3Q	4Q	FY
2014	-0.18A	-0.15A	-0.13A	-0.34A	-0.80A
2015	-0.27A	-0.37A	-0.32E	-0.31E	-1.26E
2016	-0.27E	-0.27E	-0.24E	-0.24E	-1.02E

CFPS	1Q	2Q	3Q	4Q	FY
2014	-0.02A	0.13A	0.11A	0.05A	0.27A
2015	0.12A	0.15A	0.08E	0.18E	0.53E
2016	0.28E	0.32E	0.35E	0.37E	1.32E

Net Gas (mmcf/d)	1Q	2Q	3Q	4Q	FY
2014	0.6A	0.8A	0.4A	7.1A	2.2A
2015	6.3A	6.1A	5.7E	7.4E	6.4E
2016	9.0E	10.6E	12.1E	13.5E	11.3E

Oil (mb/d)	1Q	2Q	3Q	4Q	FY
2014	1.3A	2.0A	2.4A	1.9A	1.9A
2015	2.3A	2.3A	2.5E	3.0E	2.5E
2016	3.3E	3.5E	3.6E	3.8E	3.5E

1-Year Price History



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Miller Energy Resources

TURNING THE CORNER: Kitchen Sink of a Quarter Could Mark a Bottom, New Strategy in Place

Trimming target price to $3.00, but maintaining our Buy rating

Anything and everything that could go wrong for MILL in fiscal Q2'15, did go wrong. Its RU-9 development well was a major disappointment, casting concern over a core asset. Its WF-3 workover didn't work. Its Olsen Creek #2 exploration well was also unsuccessful. Ongoing management turnover has not exactly inspired investor confidence. We'll spare any further commentary on the precipitous decline in oil prices.

The positive takeaway: new management is demonstrating its adaptability to the situation. The company is reducing its capital spending and shifting its focus to lower-risk opportunities within the portfolio. We're believers in both the new strategy and management's ability to execute in order to turn the corner. While our NAV-based target price is being reduced to $3.00 (from $3.50) on a lower production forecast, we maintain our Buy rating on an improved liquidity outlook.

Fiscal Q2'15 earnings shortfall on lower production, higher expenses

MILL reported fiscal Q2'15 adj. EPS of ($0.37), missing our ($0.25) estimate and the ($0.21) consensus. Adj. CFPS of $0.15 was also shy of our $0.17 and the $0.29 consensus. The miss was across the board, with production, operating expenses, and G&A all contributing. Fiscal Q2'15 production of 3.3 MBoe/d missed expectations by >10%. Refer to **Exhibit 1** for additional detail.

Strategy shift: lowering risk profile of drilling program

The company is responding to challenging internal and external conditions by being more prudent with its capital spending and pivoting to lower-risk projects. Its E&D capex budget for the remainder of fiscal 2015 has been set at ~$45 million (compared to our prior projections of ~$100) for gas development drilling at North Fork and oil sidetracks at Redoubt. Removed from the drilling agenda are new wells at Redoubt (including RU-12) and the exploration program (including Sabre). We view this to be a prudent strategy in the current environment and feel that it highlights the company's operational flexibility.

Lowering production outlook, NAV impact minimal

Adjusting our production model for the revised strategy puts some downward pressure on our forecast, but has a minimal impact on our NAV as we had not been giving the company credit for its exploration upside. Our fiscal 2015 forecast is being lowered to 3.6 MBoe/d (from 4.1); consensus is 4.2. Our fiscal 2016 forecast slides to 5.4 MBoe/d (from 5.9), albeit with a much higher gas weighting; consensus is 6.4. Refer to **Exhibit 2** for a summary financial model.

Liquidity update: lower capex improves outlook, hedges provide protection

Our view of MILL's liquidity position has improved with its reduction in capex, yet remains tight. The company's borrowing base is still $60 million, though recent amendments to receive waivers could prevent access from that full amount. It has $36 million drawn in addition to $10 million of cash at the moment. MILL has protected its near-term cash flows with a strong hedge book that includes swaps on 75%-80% of remaining f2015e oil production at ~$99/Bbl and ~60% of f2016e oil at ~$95/Bbl. Based on our assumptions, the company should be able to undertake its revised capital plans. We also expect it to honor its preferred dividends which it considers "sacrosanct".

IMPORTANT DISCLOSURES AND CERTIFICATIONS.

Exhibit 1: Earnings Variance Analysis

Segment	Miller Energy Resources, Inc. FISCAL SECOND QUARTER Ended October 31, 2014	2015 Act.	2015 Est.	2014 Act.	%Δ Act vs Est
E&P	**Natural Gas (MMcf/d)**				
	Cook Inlet	5.6	7.0	0.5	-20%
	Appalachia	0.5	0.3	0.3	
	Total	6.1	7.3	0.8	-16%
	Price ($/Mcf)	$6.75	$5.91	$3.91	14%
	Benchmark (HH)	*$3.86*	*$3.86*	*$3.57*	
	Crude Oil (MBbl/d)				
	Cook Inlet	2.2	2.4	1.9	-9%
	Appalachia	0.1	0.1	0.1	
	Total	2.3	2.5	2.0	-8%
	Price ($/Bbl)	$87.28	$90.21	$102.65	-3%
	Benchmark (WTI)	*$91.12*	*$91.12*	*$104.31*	
	MBoe/d Produced	**3.3**	**3.7**	**2.1**	**-11%**
	First Call Consensus	*3.8*			
	Other Revenues	3.1	2.1	(1.4)	
	Total Revenues	25.0	26.5	17.5	*-6%*
	Exploration Expense	0.0	0.5	0.1	
	Lifting Cost	8.5	7.0	6.2	
	Per Boe	*$28.30*	*$20.77*	*$31.89*	*36%*
	DD&A	20.1	17.6	9.0	
	Per Boe	*$66.70*	*$52.00*	*$46.66*	*28%*
	Accretion Expense	0.4	0.3	0.3	
	Total Op. Income	(4.0)	1.1	1.8	
S&D	Service Revenue	0.3	0.4	0.1	
	Service Costs	0.3	0.4	0.3	
	Service Income	(0.1)	0.0	(0.2)	
Income Statement	G & A	13.0	8.5	7.1	54%
	Interest Expense	3.6	5.5	1.4	-34%
	Other Income	(1.3)	0.0	(0.0)	
	Nonrecurring Items	(263.7)	0.0	(3.0)	
	Pretax Income	(285.7)	(12.9)	(9.8)	
	Taxes	(117.7)	(5.1)	(4.9)	
	Tax Rate	*41.2%*	*40.0%*	*49.3%*	*3%*
	Aftertax Income	(167.9)	(7.7)	(5.0)	
	Extraordinary Items	0.0	0.0	0.0	
	Preferred Dividends	4.4	3.7	3.3	
	Reported Net Income	(172.3)	(11.4)	(8.3)	
	Adjusted Net Inc.	**(17.3)**	**(11.4)**	**(6.8)**	
	Adjusted EPS	**($0.37)**	**($0.25)**	**($0.15)**	**52%**
	First Call Consensus	*($0.21)*			
	Shares Outstanding	48.7	48.8	46.5	
Cash Flow	Net Income	(172.3)	(11.4)	(8.3)	
	- Nonrecurring Items	(263.7)	0.0	(3.0)	
	+ Preferred Dividends	4.4	3.7	3.3	
	+ DD&A	20.4	17.9	9.3	
	+ Exploration	0.0	0.3	0.0	
	+ Deferred Taxes	(117.7)	(5.1)	(4.9)	
	+ Stock Comp	7.5	2.5	1.9	
	+ Other	1.0	0.0	1.4	
	- Capitalized Interest	0.0	0.0	0.0	
	Discretionary Cash Flow	7.0	7.8	5.7	
	DCFPS	**$0.15**	**$0.17**	**$0.13**	**-10%**
	First Call Consensus	*$0.29*			

Gas sales were lower than expected as WF-3 was unsuccessful.

Oil sales surprised to the downside.

Unit DD&A was much higher than expected and was a primary culprit in the EPS miss.

Excluded as nonrecurring: $166.8 exploration exp, $113.7 of impairments (mostly at Redoubt), $22.0 unrealized derivative gain, and $4.9 of non-recur G&A.

Source: Company Reports, Thomson First Call, MLV & Co. Research

Exhibit 2: Summary Financial Model ($MM except per unit data; fiscal year-end April)

	Q1-15	Q2-15	Q3-15E	Q4-15E	Q1-16E	Q2-16E	Q3-16E	Q4-16E	2013	2014	2015E	2016E
E&P UNIT DATA												
Natural Gas:												
Production (MMcf/d)	6.3	6.1	5.7	7.4	9.0	10.6	12.1	13.5	0.4	2.2	6.4	11.3
Price ($/Mcf)	6.83	6.75	6.50	6.50	6.50	6.50	6.50	6.50	3.52	6.26	6.63	6.49
Benchmark	4.37	3.86	4.13	4.27	3.92	3.92	4.42	4.62	3.20	4.20	4.16	4.22
Crude Oil:												
Production (MBbl/d)	2.3	2.3	2.5	3.0	3.3	3.5	3.6	3.8	0.8	1.9	2.5	3.5
Price ($/Bbl)	100.44	87.28	84.12	86.57	88.20	89.02	90.65	90.65	101.53	100.85	89.12	89.64
Benchmark	103.34	91.12	85.83	88.33	90.00	90.83	92.50	92.50	91.06	99.88	92.16	91.46
Total Production (MBoe/d)	**3.3**	**3.3**	**3.5**	**4.3**	**4.8**	**5.2**	**5.6**	**6.1**	**0.9**	**2.2**	**3.6**	**5.4**
Per Boe:												
Lifting Costs	22.34	28.30	26.72	21.85	19.60	18.45	17.67	17.01	77.74	31.47	24.61	18.10
DD&A	55.70	66.70	60.00	60.00	56.00	56.00	52.00	52.00	41.46	40.91	60.45	53.83
G&A	31.20	43.34	31.20	23.78	18.14	16.60	15.56	14.69	71.76	37.82	31.80	16.14
FD&A	NA	NA	NA	NA	NA	NA	NA	NA	NM	67.92	22.72	33.60
INCOME STATEMENT												
E&P Revenues	23.6	25.0	25.9	29.3	33.4	35.8	37.6	39.1	31.4	67.6	103.8	145.9
Non-E&P Revenues	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	4.9	1.1	1.3	1.6
Total Revenues	23.9	25.2	26.3	29.7	33.8	36.2	38.0	39.5	36.3	68.7	105.1	147.5
Exploration Expense	0.3	0.0	0.5	0.5	0.5	0.5	0.5	0.5	1.5	2.0	1.3	2.0
Lifting Costs	6.8	8.5	8.6	8.3	8.6	8.9	9.1	9.3	24.7	25.8	32.2	35.9
DD&A	17.0	20.1	19.2	22.7	24.7	27.0	26.7	28.3	13.2	33.5	79.0	106.7
G&A	9.5	13.0	10.0	9.0	8.0	8.0	8.0	8.0	22.8	31.0	41.6	32.0
Operating Income	(9.7)	(16.4)	(12.0)	(10.8)	(8.1)	(8.1)	(6.3)	(6.6)	(25.8)	(23.6)	(48.9)	(29.1)
Interest Expense	2.8	3.6	5.7	5.7	5.7	5.7	5.7	5.7	4.3	7.5	17.8	22.9
Other Income	(0.9)	(1.3)	0.0	0.0	0.0	0.0	0.0	0.0	(0.3)	(0.9)	(2.1)	0.0
Nonrecurring Items	(5.2)	(263.7)	0.0	0.0	0.0	0.0	0.0	0.0	5.2	(9.1)	(268.9)	0.0
Pretax Income	(19.2)	(285.7)	(18.4)	(17.2)	(14.5)	(14.6)	(12.8)	(13.1)	(30.2)	(43.5)	(340.6)	(55.0)
Income Taxes	(7.3)	(117.7)	(7.4)	(6.9)	(5.8)	(5.8)	(5.1)	(5.2)	(9.8)	(14.9)	(139.4)	(22.0)
Aftertax Income	(11.9)	(167.9)	(11.1)	(10.3)	(8.7)	(8.8)	(7.7)	(7.8)	(20.4)	(28.6)	(201.2)	(33.0)
Extraordinary Items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preferred Dividends	3.8	4.4	4.2	4.2	4.2	4.2	4.2	4.2	5.1	13.2	16.5	16.6
Net Income	(15.6)	(172.3)	(15.2)	(14.5)	(12.9)	(12.9)	(11.8)	(12.0)	(25.5)	(41.8)	(217.6)	(49.6)
FD Shares Outstanding	48.3	48.7	49.2	49.7	50.2	50.7	51.2	51.7	45.1	46.8	49.0	51.0
Reported EPS	**($0.34)**	**($3.72)**	**($0.32)**	**($0.31)**	**($0.27)**	**($0.27)**	**($0.24)**	**($0.24)**	**($0.60)**	**($0.94)**	**($4.67)**	**($1.02)**
Operating EPS	**($0.27)**	**($0.37)**	**($0.32)**	**($0.31)**	**($0.27)**	**($0.27)**	**($0.24)**	**($0.24)**	**($0.68)**	**($0.80)**	**($1.26)**	**($1.02)**
DCFPS	**$0.12**	**$0.15**	**$0.08**	**$0.18**	**$0.28**	**$0.32**	**$0.35**	**$0.37**	**($0.27)**	**$0.27**	**$0.53**	**$1.32**
CASH FLOW STATEMENT												
Discretionary Cash Flow	5.5	7.0	3.9	8.6	13.3	15.5	17.0	18.4	(11.5)	11.8	24.9	64.2
EBITDAX	8.7	9.6	9.6	14.2	19.0	21.2	22.8	24.1	(5.1)	17.8	42.1	87.0
Asset Sales	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	2.0	0.0	3.9	0.0
Dividends Paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Expenditures	25.6	35.1	9.6	20.0	4.4	15.0	15.0	15.0	37.9	182.8	90.4	49.4
BALANCE SHEET												
Cash	5.2	15.6	13.6	5.0	14.0	14.0	16.0	19.0	10.1	6.4	5.0	19.0
Current Assets	79.4	90.5	88.5	79.9	88.9	88.9	90.9	93.9	30.6	71.2	79.9	93.9
PP&E (net)	675.7	416.8	401.0	393.9	372.4	357.1	342.0	325.3	528.9	680.2	393.9	325.3
Current Liabilities	75.8	92.2	92.2	92.2	92.2	92.2	92.2	92.2	26.3	74.9	92.2	92.2
Debt	205.3	219.0	219.0	221.4	221.4	221.4	221.4	221.4	57.6	184.2	221.4	221.4
Preferred Stock	100.2	118.9	118.5	118.5	118.5	118.5	118.5	118.5	31.2	97.8	118.5	118.5
Stockholders' Equity	240.6	80.9	65.6	51.1	38.3	25.3	13.5	1.5	288.9	252.7	51.1	1.5
RESERVES												
Year-end Reserves (MMBoe)	NA	NA	NA	NA	NA	NA	NA	NA	8.6	10.7	12.7	11.9
Reserves/Production	NA	NA	NA	NA	NA	NA	NA	NA	27.1	13.1	9.7	6.0
Year-end Proved Asset Value	NA	NA	NA	NA	NA	NA	NA	NA	242.9	269.9	426.7	391.7
DCFPS SENSITIVITIES												
Per $0.15/Mcf change in natural gas prices	NA	NA	NA	NA	NA	NA	NA	NA	NM	1.0%	1.4%	1.0%
Per $1.00/Bbl change in crude oil prices	NA	NA	NA	NA	NA	NA	NA	NA	NM	5.8%	3.7%	2.0%

Source: Company Reports, MLV & Co. Research

VALUATION

We use a DCF-based net asset value (NAV) approach to value E&P stocks. Our NAV calculation is derived from the company's SEC PV10, adjusted for our long-term price deck. To this we add a risked valuation of the company's upside potential and other non-E&P assets, before subtracting net debt.

We believe this methodology is a more effective means of comparing companies with significantly different asset profiles and provides a more accurate accounting of a company's upside potential. We arrive at our target price by applying a 1x multiple to our NAV valued at long-term commodity prices of $85/Bbl (WTI) and $4.50/Mcf (Henry Hub). Refer to the following table for our near-term commodity price deck.

Commodity Price Forecast	2014E	2015E	2016E	1Q14	2Q14	3Q14	4Q14E	1Q15E	2Q15E	3Q15E	4Q15E
CRUDE - WTI	93.58	70.00	75.00	98.65	103.06	97.60	75.00	67.50	70.00	70.00	72.50
NATURAL GAS - HENRY HUB	4.42	3.75	3.75	5.16	4.59	3.93	4.00	4.00	3.75	3.50	3.75

Source MLV & Co Research

INVESTMENT RISK

Exploration and production companies face a number of market, business, and sector risks including, but not limited to the following:

- Commodity price risk
- Capital markets risk
- Operational risk
- Regulatory and environmental risk
- Weather related delays/downtime
- Midstream constraints

IMPORTANT DISCLOSURES

Analyst Certification

The research analyst, Chad Mabry, who is primarily responsible for the preparation of this research report, certifies that (i) all views expressed in this research report accurately reflect the analyst's personal views about any and all the subject issuer and security featured in this report and (ii) no part of the analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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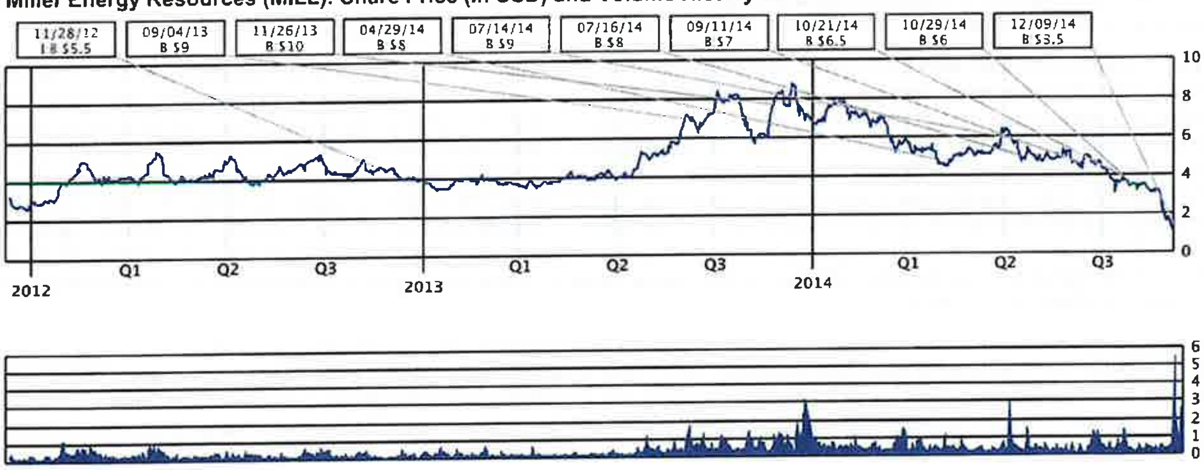
All required current disclosures on subject companies covered in this report may be obtained by contacting Randy Billhardt at MLV at 212-542-5882 or rbillhardt@mlvco.com.

Miller Energy Resources (MILL): Share Price (in USD) and Volume History as of 12-09-2014



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E&P Rating System

Buy: The stock's total return is expected to outperform the relevant benchmark over the next 12 months.

Hold: The stock's total return is expected to be in line with the relevant benchmark over the next 12 months.

Sell: The stock's total return is expected to underperform the relevant benchmark over the next 12 months.

*Benchmark is defined as the Oil Exploration and Production Index (Bloomberg ticker: EPX Index).

	COMPANIES UNDER COVERAGE		INVESTMENT BANKING SERVICE WITHIN 12 MONTHS	
Rating	Count	Percent	Count	Percent
BUY	115	66.47%	52	30.06%
HOLD	58	33.53%	21	12.14%
SELL	0	0.00%	0	0.00%

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TARGET PRICE CHANGE

BREAN CAPITAL, LLC

Miller Energy Resources Inc. (MILL/ NYSE)
December 10, 2014

Curtis Trimble, (713) 444-3560 ctrimble@breancapital.com

Applaud New CEO's Candor, but Halving Target to $3

Buy
TP: $3.00 (from $6.00)

Price	$1.35
52-Week High/Low	$8.97-$1.16
Shares Out (mm)	46.4
Market Cap (mm)	$63
Avg. Daily Vol (000)	627,264
Short Interest	14.4%
Public Market Float (mm)	33
Cash (mm)	$3.1
LTD (MM)	$82.0
EV (mm)	NA
Book Value / Share	7.71
Next Qtr's Production Estimate (bcfe)	2
Next Qtr's Production Estimate (mboe)	380
% Liquids	75%
Proven Reserves (mmboe)	11
% PUD	41%

CFPS	FY14A	FY15E	FY16E
July	$0.03	$0.12A	$0.28
Prior:	--	--	*$0.42*
Oct	$0.19	$0.12A	$0.35
Prior:	--	*$0.35*	*$0.58*
Jan	$0.13	$0.08	$0.43
Prior:	--	*$0.26*	*$0.74*
Apr	$0.13	$0.15	$0.43
Prior:	--	*$0.29*	*$0.79*
FY (Apr)	**$0.47**	**$0.47**	**$1.50**
Prior:	--	*$1.03*	*$2.53*
Mboepd			
July	1.4	3.3A	5.3
Prior:	--	--	*6.7*
Oct	2.1	3.3A	6.1
Prior:	--	*4.2*	*7.8*
Jan	2.5	3.5	6.8
Prior:	--	*4.8*	*8.8*
Apr	3.0	4.6	7.4
Prior:	--	*5.7*	*9.6*
FY (Apr)	**2.2**	**3.7**	**6.4**
Prior:	--	*4.5*	*8.2*
P/E (x)	NM	NM	NM

Source: Bloomberg

Investment Summary

Those dialing in to MILL's fiscal Q2:15 conference call were treated to an abundance of honesty as new CEO Carl Giesler attempted to effectively reset the bar of expectations for Miller as well as for its investors. It appears as though Giesler initially proved successful as MILL shares recovered their 20%+ losses over the course of the morning after Miller concluded its conference call. We reset our expectations as well, dialing our $6 prior price target down to $3. While incorporating production from the Savant acquisition too early into our model marked the primary discrepancy between MILL's performance and our expectations, the lack of productive drilling outcomes in fiscal Q2:15 expanded the schism between performance and expectations. As a result we substantially reined in our expectations to 3.7 Mboepd of 2015 production and $0.47 in CFPS, down from prior expectations for 4.4 Mboepd and $1.03. While Miller's liquidity position remains tenuous, it does not appear to be much, if any, more tenuous than it was prior to the company issuing Q2:15 results. We expect a combination of operating efficiency, asset monetizations, and joint venture activity to aid Miller's capital position in calendar 2015.

Discussion

New CEO battens down the hatches and prepares to avoid the worst. It proved abundantly clear from new Miller CEO Carl Giesler's initial conference call comments that he was prepared to navigate the company through potentially the worst of times. Noting that preferred dividend payments were "sacrosanct" several times, Giesler noted that the company's focus on efficient, low-risk operations now is of paramount importance and that more than a few means of financing debt service and ongoing operations were on the negotiating table, including asset sales, joint ventures, additional debt, and/or equity. Drilling efforts will focus on low-risk wells that can be tied to production quickly.

Liquidity amounts to $75.8MM, including $41.8MM of outstanding tax credit receivables. With ~$10MM in cash on hand, $24MM in borrowing base availability on its $60MM facility, and $41.8MM of State of Alaska tax credit receivables, Miller has access to about $75.8MM of available liquidity. Miller also owns a great deal of processing and gathering infrastructure along the eastern portion of the Cook Inlet that could prove to be an attractive divestment or joint venture opportunity for an adjacent operator. Management noted that Rig 34 was coming state-side in lieu of a sale while it was looking to lease Rig 36. In its press release management noted that additional financing might be necessary to close the $6.7MM Savant acquisition which includes 600 bopd of net production. Presumably, financing this transaction is somewhat of a chicken-or-the-egg situation as the cash flow associated with 600 bopd of net production easily finances the $6.7MM acquisition even in the terrible recent crude oil price environment.

No more Olsen Creek exploration projects for a while. Unlike the Olsen Creek #2 exploratory well that proved to be non-commercial and that likely would have needed an extended period and infrastructure investment to be placed on production even if it proved successful, Miller's drilling program for the time being will focus on low-risk North Fork natural gas wells, which MILL can bring on production in a couple months in a ~$7/MMbtu market, and Redoubt sidetracks and PUDs. Presuming the Savant transaction closes, Miller plans two Badami wells in that area in Summer 2015.

~$20.6MM in estimated hedge revenue helps, but drilling efforts still need to pay off. The brightest spot in Miller's Q2:15 results is that the company retains hedges on 1.4MMbbls of crude oil at an average price of $96.06/bbl. While there is an estimated $20.6MM in value contained in these hedges, which extend into fiscal 2017 with 233,000 barrels hedged for that period, Miller still needs positive contributions from its dilling program in order not only to drive the operating and G&A leverage offered by the company's infrastructure base, but also to maintain its access to credit. Establishing additional cash flow from the North Fork, Redoubt, and, prospectively, Badami areas, are of paramount importance to Miller remaining an ongoing concern. With a pushout of Badami and a retrenchment of the drilling effort, we reduced our fiscal 2015 production forecast to 3.7 Mboepd from 4.4 Mboepd, resulting in a decline in estimated CFPS to $0.47 from $1.03. This drop in expected cash flow halves our price target to $3 from $6.

Valuation / Target Price

We arrive at our $3 target price for MILL shares using a production-driven DCF methodology combined with a 16.0% WACC, $80/bbl crude oil, and $4.50/mcf natural gas. The key driver of our production estimates are the 133 future drilling locations we estimate MILL retains in Alaska on its more than 680,000 net acres of leasehold.

Please see page(s) 3 - 4 for important disclosures and analyst certification.

Miller Energy Resources (NASDAQ: MILL)															
Fiscal Period	1Q14	2Q14	3Q14	4Q14	2014	1Q15	2Q15	3Q15E	4Q15E	2015E	1Q16E	2Q16E	3Q16E	4Q16E	2016E
Period Ends	Mar-14	Jun-14	Sep-14	Dec-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Dec-16
Production															
Daily Production															
Crude Oil (Bbls/d)	1,282	1,992	2,385	1,632	1,876	2,270	2,280	2,628	3,454	2,703	4,215	4,877	5,462	5,931	5,125
Natural Gas (Mcf/d)	645	788	388	6,829	2,175	6,260	6,167	5,257	6,807	5,639	6,323	7,315	8,192	8,897	7,687
Natural Gas Liquids (Bbls/d)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equivalent (Boe/d)	1,390	2,124	2,450	2,970	2,238	3,313	3,273	3,504	4,605	3,676	5,269	6,096	6,827	7,414	6,406
Sequential Growth Rate %	56%	55%	17%	21%	157%	12%	-2%	6%	34%	64%	13%	16%	13%	9%	75%
% Natural Gas	8%	6%	3%	38%	16%	31%	31%	25%	25%	26%	20%	20%	20%	20%	20%
Hedged Pricing															
Crude Oil Hedged ($/Bbl)	$104.57	$102.65	$94.58	$125.91	$100.85	$100.44	$87.28	$80.94	$69.07	$90.98	$75.18	$78.60	$81.24	$77.39	$78.25
Natural Gas Hedged ($/MMBtu)	$4.63	$3.91	$3.39	$3.73	$6.26	$6.83	$6.75	$6.60	$6.00	$6.04	$5.78	$5.63	$6.00	$6.00	$5.87
Natural Gas Liquids Hedged ($/Bbl)	$0.00	$0.00	$0.00	$27.60	$27.60	$30.32	$29.03	$24.80	$23.80	$26.99	$24.40	$24.80	$25.60	$25.60	$25.10
Income Statement ($ in millions)															
Oil and Gas Revenues	$12.5	$18.7	$16.5	$21.8	$69.5	$25.1	$23.9	$22.4	$25.8	$97.1	$32.2	$38.6	$45.3	$47.1	$163.3
Other Revenues	$0.5	$0.1	$0.2	$0.3	$1.1	$0.3	$0.3	$0.0	$0.0	$0.5	$0.0	$0.0	$0.0	$0.0	$0.0
Total Revenues	$13.0	$18.8	$16.6	$22.1	$70.6	$25.4	$24.2	$22.4	$25.8	$97.7	$32.2	$38.6	$45.3	$47.1	$163.3
Lease Operating Costs	$6.3	$6.2	$5.8	$7.5	$25.8	$10.6	$9.8	$9.3	$10.0	$39.8	$10.5	$12.2	$13.8	$15.0	$51.5
Cost of other revenue	$0.3	$0.3	$0.3	$0.3	$1.1	$0.3	$0.3	$0.3	$0.5	$1.5	$0.5	$0.6	$0.7	$0.7	$2.6
DD&A Expense	$5.7	$9.0	$7.6	$11.2	$33.5	$17.0	$20.1	$12.6	$16.9	$66.6	$19.2	$22.2	$25.1	$27.3	$93.8
G&A Expense	$6.4	$7.1	$7.6	$10.7	$31.7	$9.5	$17.9	$9.5	$8.3	$45.2	$7.0	$7.3	$7.5	$7.3	$29.1
Exploration	$0.3	$0.1	$0.4	$1.2	$2.0	$0.3	$166.8	$0.0	$0.0	$167.1	$0.0	$0.0	$0.0	$0.0	$0.0
Impairments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$113.7	$0.0	$0.0	$113.7	$0.0	$0.0	$0.0	$0.0	$0.0
Other Operating Expenses	$0.0	$0.0	$1.3	$0.9	$2.1	$0.0	$0.3	$0.0	$0.0	$0.3	$0.0	$0.0	$0.0	$0.0	$0.0
Total Expense	$19.2	$23.1	$23.2	$32.1	$97.6	$38.1	$329.3	$32.1	$36.1	$435.6	$37.6	$42.6	$47.4	$50.7	$178.3
Operating Income	($6.2)	($4.3)	($6.6)	($10.0)	($27.0)	($12.7)	($305.2)	($9.8)	($10.3)	($337.9)	($5.4)	($4.0)	($2.1)	($3.5)	($15.0)
Net Interest Expense	$2.3	$1.4	$0.4	$3.4	$7.5	$2.8	$3.6	$5.6	$5.6	$17.6	$5.6	$5.6	$5.6	$5.6	$22.5
Other (Income) Expense	$3.1	$4.2	($1.7)	($11.8)	($6.2)	$3.7	($22.2)	$0.0	$0.0	($18.5)	$0.0	$0.0	$0.0	$0.0	$0.0
Total Other (Income) Expenses	$5.4	$5.6	($1.3)	($8.3)	$1.3	$6.5	($18.6)	$5.6	$5.6	($0.8)	$5.6	$5.6	$5.6	$5.6	$22.5
Pre-Tax Income	($11.5)	($9.8)	($5.3)	($1.6)	($28.3)	($19.2)	($286.6)	($15.4)	($15.9)	($337.1)	($11.0)	($9.6)	($7.7)	($9.2)	($37.5)
Total Tax Provision	($4.6)	($4.9)	($2.2)	($3.2)	($14.9)	($7.3)	($117.7)	($6.2)	($6.4)	($137.6)	($4.4)	($3.8)	($3.1)	($3.7)	($15.0)
Income Before Extraordinary Items	($6.9)	($5.0)	($3.1)	$1.6	($13.4)	($11.9)	($168.8)	($9.2)	($9.6)	($199.5)	($6.6)	($5.8)	($4.6)	($5.5)	($22.5)
Non-Recurring Items, Net	$1.6	$2.1	($1.0)	$17.7	$20.7	$2.9	$188.1	$0.0	$0.0	$171.0	$0.0	$0.0	$0.0	$0.0	$0.0
Recurring Net Income to Common	($7.6)	($6.2)	($7.8)	$0.5	($21.0)	($12.7)	($4.1)	($12.7)	($13.0)	($42.6)	($10.1)	($9.2)	($8.1)	($9.0)	($36.3)
Recurring EPS - Diluted	($0.17)	($0.14)	($0.17)	$0.01	($0.47)	($0.28)	($0.09)	($0.26)	($0.26)	($0.89)	($0.19)	($0.17)	($0.14)	($0.16)	($0.66)
Recurring CFPS - Diluted	$0.03	$0.19	$0.13	$0.13	$0.47	$0.12	$0.12	$0.08	$0.15	$0.47	$0.28	$0.36	$0.43	$0.43	$1.50
Diluted Shares Out (MM)	43.5	44.1	44.9	45.4	44.4	45.9	45.4	48.3	50.2	47.7	52.1	54.0	55.8	57.6	54.9
Total Corporate EBITDAX	$4.3	$10.4	$7.0	$16.5	$38.1	$14.0	$8.4	$9.3	$13.0	$44.7	$20.2	$24.8	$29.5	$30.1	$104.4
Margin Analysis															
Oil & Gas Revenues ($/Boe)	$100.16	$96.70	$73.06	$79.72	$85.03	$82.34	$80.27	$70.91	$60.80	$72.39	$67.07	$69.63	$72.19	$69.11	$69.64
Lease Operating Expense ($/Boe)	$50.09	$31.89	$25.83	$27.58	$31.56	$34.72	$32.92	$29.63	$23.70	$29.64	$21.92	$21.92	$21.96	$22.02	$21.96
Other REVs cost ($/boe)	$2.27	$1.57	$1.14	$1.11	$1.40	$1.12	$1.09	$1.09	$1.09	$1.10	$1.09	$1.09	$1.09	$1.09	$1.09
Total Operating Costs ($/Boe)	$52.36	$33.46	$26.96	$28.69	$32.97	$35.83	$34.01	$30.72	$24.79	$30.74	$23.02	$23.02	$23.05	$23.11	$23.05
Gross Margin ($/Boe)	$47.80	$63.24	$46.10	$51.03	$52.06	$46.51	$46.26	$40.19	$36.01	$41.65	$44.06	$46.61	$49.14	$46.00	$46.59
G&A Expense	$50.85	$36.97	$33.66	$38.98	$38.86	$31.20	$60.10	$30.05	$19.53	$33.66	$14.65	$13.18	$11.87	$10.68	$12.40
Operating Income ($/Boe)	($3.05)	$26.27	$12.43	$12.05	$13.21	$15.31	($13.84)	$10.14	$16.48	$7.99	$29.41	$33.43	$37.27	$35.32	$34.19
Net Interest Exp	$34.51	$20.67	$14.70	$33.07	$25.29	$18.85	$23.76	$28.77	$21.42	$23.08	$18.92	$16.36	$14.45	$13.30	$15.48
Cash Taxes	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	($0.14)	($0.20)	($0.32)	($0.18)
Unit Cash Flow ($/Boe)	($37.56)	$5.60	($2.26)	($21.02)	($12.08)	($3.54)	($37.61)	($18.64)	($4.94)	($15.10)	$10.48	$17.21	$23.02	$22.34	$18.88
DD&A Expense ($/Boe)	$45.51	$46.66	$33.91	$40.90	$41.04	$55.70	$67.42	$40.00	$40.00	$49.66	$40.00	$40.00	$40.00	$40.00	$40.00
Cash Flow Statement ($ in millions)															
Operating Cash Flow	($0.9)	$5.6	$3.1	$0.1	$7.8	$2.7	$2.1	$0.2	$4.0	$9.0	$11.1	$15.6	$20.5	$21.3	$68.5
Decrease (Increase) in Working Capital	($3.5)	$2.9	$8.1	($0.0)	$7.5	$4.7	$15.9	$0.0	$0.0	$20.6	$0.0	$0.0	$0.0	$0.0	$0.0
Other	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Cash Flow From Operations	($4.4)	$8.5	$11.2	$0.0	$15.3	$7.4	$18.1	$0.2	$4.0	$29.6	$11.1	$15.6	$20.5	$21.3	$68.5
Cash Flow From Investing Activities	($18.3)	($41.3)	($22.5)	($100.7)	($182.8)	($25.6)	($35.1)	($32.4)	($57.5)	($150.6)	($53.0)	($53.8)	($53.6)	($74.7)	($235.1)
Free Cash Flow	($22.7)	($32.8)	($11.3)	($100.7)	($167.5)	($18.2)	($17.1)	($32.2)	($53.5)	($121.0)	($41.9)	($38.2)	($33.1)	($53.4)	($166.6)
Per Share	($0.52)	($0.74)	($0.25)	($2.22)	($3.77)	($0.40)	($0.37)	($0.67)	($1.07)	($2.54)	($0.80)	($0.71)	($0.59)	($0.93)	($3.04)
Cash Flow From Financing Activities	$23.3	$51.5	$2.7	$93.2	$170.7	$16.2	$27.8	$20.2	$53.5	$117.8	$41.9	$38.2	$33.1	$53.4	$166.6
Net Cash Flow	$0.6	$18.7	($8.6)	($7.4)	$3.2	($2.0)	$10.8	($12.0)	$0.0	($3.2)	$0.0	$0.0	$0.0	$0.0	$0.0
Balance Sheet ($ in millions)															
Total Current Assets	$40.1	$41.1	$51.5	$71.2	$71.2	$79.4	$90.5	$77.4	$77.4	$77.4	$77.4	$77.4	$77.4	$77.4	$77.4
Net Property, Plants and Equipment	$503.8	$554.7	$568.8	$644.8	$644.8	$635.7	$416.8	$436.2	$476.4	$476.4	$509.8	$541.0	$569.2	$616.3	$616.3
Other Assets, Net	$59.1	$50.6	$50.8	$50.8	$50.8	$58.9	$21.5	$21.5	$21.5	$21.5	$21.5	$21.5	$21.5	$21.5	$21.5
Total Assets	$603.1	$646.4	$671.1	$766.8	$766.8	$774.0	$528.8	$535.1	$575.3	$575.3	$608.7	$639.9	$668.1	$715.2	$715.2
Current Portion of Long-Term Debt	$6.0	$6.0	$0.0	$0.0	$0.0	$8.4	$24.7	$24.7	$24.7	$24.7	$24.7	$24.7	$24.7	$24.7	$24.7
Other Current Liabilities	$35.9	$38.4	$60.8	$74.9	$74.9	$67.4	$67.5	$67.5	$67.5	$67.5	$67.5	$67.5	$67.5	$67.5	$67.5
Total Current Liabilities	$41.9	$44.4	$60.8	$74.9	$74.9	$75.8	$92.2	$92.2	$92.2	$92.2	$92.2	$92.2	$92.2	$92.2	$92.2
Long-Term Debt	$51.6	$68.0	$74.3	$174.7	$174.7	$196.9	$194.3	$217.5	$274.0	$274.0	$318.8	$359.9	$396.0	$452.4	$452.4
Other Long-Term Liabilities	$174.8	$171.9	$170.0	$166.6	$166.6	$160.5	$42.5	$36.3	$30.0	$30.0	$25.6	$21.8	$18.8	$15.4	$15.4
Preferred Equity	$53.7	$85.0	$92.0	$92.8	$92.8	$95.2	$95.2	$95.2	$95.2	$95.2	$95.2	$95.2	$95.2	$95.2	$95.2
Common Equity	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Additional Paid-In Capital	$89.9	$94.1	$97.8	$98.8	$98.8	$102.2	$132.2	$134.8	$137.4	$137.4	$140.0	$142.6	$145.2	$147.8	$147.8
Retained Earnings	$191.3	$183.0	$176.2	$158.9	$158.9	$143.3	($27.6)	($39.8)	($52.3)	($52.3)	($61.9)	($70.6)	($78.2)	($86.6)	($86.6)
Less: Treasury stock (At Cost)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	($1.1)	($1.1)	($1.1)	($1.1)	($1.1)	($1.1)	($1.1)	($1.1)
Total Shareholder Equity	$334.9	$362.1	$366.0	$350.5	$350.5	$340.7	$199.8	$189.1	$179.2	$179.2	$172.2	$166.1	$161.1	$155.2	$155.2
Total Liabilities & Shareholders' Equity	$603.1	$646.4	$671.1	$766.8	$766.8	$774.0	$528.8	$535.1	$575.3	$575.3	$608.7	$639.9	$668.1	$715.2	$715.2
Book Value Per Share	$7.71	$8.21	$8.15	$7.73	$7.73	$7.42	$4.30	$4.07	$3.86	$3.86	$3.71	$3.58	$3.47	$3.34	$3.34
Net Debt/Net Capitalization	14.7%	17.0%	16.9%	33.3%	33.3%	37.6%	52.3%	56.2%	62.5%	62.5%	66.6%	69.8%	72.3%	75.4%	75.4%
Working Capital	($1.8)	($3.3)	($9.4)	($3.7)	($3.7)	$3.6	($1.7)	($14.8)	($14.8)	($14.8)	($14.8)	($14.8)	($14.8)	($14.8)	($14.8)

(Sources: company data and Brean Capital, LLC estimates)

Company Description

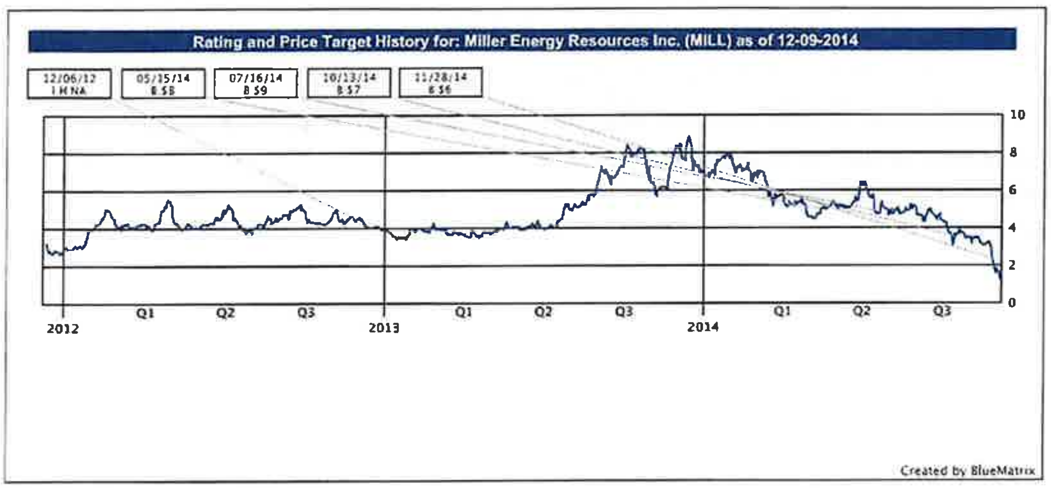
Based in Knoxville, TN, Deloy Miller founded Miller Energy Resources in the 1970s. Historically an Appalachian Basin producer before the company's 2009 entry into Alaska, Miller drilled over 5,200 wells from New York to Alabama. Since entering Alaska several years ago, Miller remained acquisitive in that area while also increasing the company's level of drilling activity in Alaska.

Risks

Miller Energy Resources Inc. (MILL) As a comparatively small operator in the notoriously harsh Alaska oil and gas sector, Miller incurs out-sized risks with respect to its ability to predictably execute day-to-day drilling and production operations. Also, the geology in Alaska remains particularly challenging, placing the company's estimates of activity levels and their resulting benefits at risk. Further, the markets for energy equities and the crude oil and natural gas commodities which they sell remain volatile, affecting the company's market reception and access to future financing.

Important Disclosures

Ratings and Target Price History



At the time this report was published, Brean Capital, LLC made a market in the securities of Miller Energy Resources Inc. .

In the normal course of its business, Brean Capital, LLC intends to seek compensation for investment banking or non-investment banking services from the companies in its coverage universe. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decisions.

The research analyst(s) or research associate(s) principally responsible for the preparation of this research report has received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors and firm revenues. The compensation is determined exclusively by research management and senior management (not including investment banking).

Brean Capital, LLC Stock Rating System

Buy - Expected to appreciate by at least 10% within the next 12 months.

Hold - Fully valued, not expected to appreciate or decline materially within the next 12 months.

Sell - Expected to decline by at least 10% within the next 12 months.

			IB Serv./ Past 12Mos.	
Rating Category	**Count**	**Percent**	**Count**	**Percent**
BUY	137	73.26%	19	13.87%
HOLD	47	25.13%	1	2.13%
SELL	3	1.60%	0	0.00%
NOT RATED				

Note: Stock price volatility may cause temporary non-alignment of some ratings with some target prices.

Analyst Certification

I, Curtis Trimble, hereby certify that the views expressed in this research report accurately reflect our personal views about any and all of the subject securities or issuers referred to in this document. The analyst and associate analyst further certify that they have not received and will not be receiving direct or indirect compensation in exchange for expressing the recommendation contained in this publication.

Disclaimers

Lower Target Price

May 1, 2015

TICKER	NYSE: MILL
RATING	BUY
PRICE TARGET	$1.00
Price (April 30, 2015)	$0.73

Miller Energy Resources

LOWERING TARGET: Notices Raise Concerns, But Liquidity Appears Stable, Maintain Buy Rating

Market Data	
Market Cap (M):	$33.8
Shares out (M):	46.7
Float (M):	36.3
Daily Vol, 3 Mo Avg (M):	0.8
52-Week Range:	$6.60-$0.62
Cash & Cash Eq (M):	$2.2
Debt (M):	$225.8
NAV (M):	NA

Financial Metrics

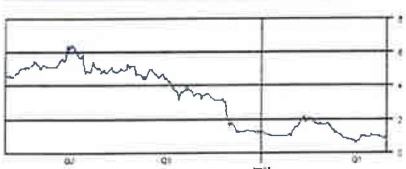
EPS	1Q	2Q	3Q	4Q	FY
2014	-0.18A	-0.15A	-0.13A	-0.34A	-0.80A
2015	-0.27A	-0.37A	-0.42A	-0.37E	-1.49E
2016	-0.36E	-0.34E	-0.33E	-0.39E	-1.42E

CFPS	1Q	2Q	3Q	4Q	FY
2014	-0.02A	0.13A	0.11A	0.05A	0.27A
2015	0.12A	0.15A	0.17A	0.06E	0.50E
2016	0.09E	0.08E	0.07E	-0.05E	0.19E

Nat Gas (mmcf/d)	1Q	2Q	3Q	4Q	FY
2014	0.6A	0.8A	0.4A	7.1A	2.2A
2015	6.3A	6.1A	6.0A	7.7E	6.5E
2016	9.3E	9.8E	10.3E	10.8E	10.1E

Oil (mb/d)	1Q	2Q	3Q	4Q	FY
2014	1.3A	2.0A	2.4A	1.9A	1.9A
2015	2.3A	2.3A	2.4A	2.7E	2.4E
2016	2.5E	2.4E	2.3E	2.2E	2.4E

1-Year Price History



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Lowering target to $1.00 as risk profile escalates, Buy rating maintained
Concerns on MILL continue to mount as the company has received a Wells Notice from the SEC and a Continued Listing notice from the NYSE. While neither is damning in and of itself, the combination does not exactly reassure investors that the company's issues are in the rearview.

We're incorporating more conservative assumptions to account for an escalating risk profile for MILL. As a result, our NAV-based target price declines to $1.00 (from $2.50); refer to **Exhibits 1 & 2** for additional detail. However, we are maintaining our Buy rating as the company's liquidity position—while far from stellar—is stable following its recent hedge monetization and based on expected tax credit receivables.

Clarifying the liquidity outlook: insolvency risk overplayed
MILL is actively assessing all liquidity levers at its disposal. Its latest move is the monetization of its 2016 oil hedges which generated net proceeds of ~$11.5 million, of which ~$10.5 is going toward the paydown of its credit facility. This is expected to bring its balance to ~$18.5 million (vs. ~$39 in early March) as the company closes the books on fiscal 2015 (ended April 30) for adequate capacity under an adj. borrowing base of $30 million. Near-term cash flows are protected by remaining hedges representing ~90% of calendar 2015 oil production swapped at ~$96/Bbl.

While its peers are struggling to minimize their cash outspend in a challenging commodity price environment, MILL benefits from the tailwind of substantial tax credit receivables. By our analysis, MILL's fiscal Q4'15 capex should be a net inflow of ~$37 million as its spend rate of ~$5 million (vs. MLVe ~$10) was offset by ~$42 million of rebates. For fQ1'16, we're modeling a net inflow of ~$23 million ($10 spend, less $33 of rebates). The company expects to receive another ~$14 million of rebates over the balance of calendar 2015.

Assessment of SEC Wells and NYSE Continued Listing notices
Neither have any fundamental impact on our investment thesis. (1) The Wells Notice relates to the accounting treatment of the 2009 Alaska acquisition and management in place at that time. The current CEO, CFO, and CAO joined the company 5+ years after the fact and, as such, were not implicated. No impact on our valuation which does not incorporate book value for these assets. (2) We expect the company to return to compliance with the Continued Listing Notice within its 6-month window.

Preferred dividends are the elephant in the room
Included in Wednesday's update was a non-decision regarding payment of the company's preferred stock dividends. MILL typically declares quarterly dividends on its Series B, C, and D Preferred Stock on the last day of its fiscal quarter (i.e., Thursday). From our perspective, ongoing discussions with its lending group have added a layer of complexity to this process. We expect MILL's board to finalize its decision in the near-term, likely in conjunction with a credit-enhancing asset sale or joint venture.

IMPORTANT DISCLOSURES AND CERTIFICATIONS.

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Our $1.00 NAV values MILL's fiscal 2015e proved reserves at $272 million, equating to a value of $23.35/Boe or ~$5.50/share. Adding $63 million of non-E&P asset value (drilling rigs and other infrastructure), $14 million of hedge value, and subtracting $304 million of net debt (including its preferred stock) gives us a fYE'15e proved-only NAV of $44 million, or ~$1.00/share.

Exhibit 1: Net Asset Value Analysis

	Unrisked Reserves (MMBoe)	Risk Factor	Risked Reserves (MMBoe)	$/Boe	Value ($MM)	$/share
Fiscal year-end 2015e:						
Proved	11.6	0%	11.6	$23.35	$271.5	$5.48
Probable	8.4	100%	0.0	$13.10	$0.0	$0.00
Exploration Upside:						
Sabre	7.5	100%	0.0	N/A	$0.0	$0.00
Olsen Creek	14.2	100%	0.0	N/A	$0.0	$0.00
Otter	7.5	100%	0.0	N/A	$0.0	$0.00
Total E&P Assets	***49.2***		***11.6***	***$23.35***	***$271.5***	***$5.48***
Non-E&P Asset Value					$62.8	$1.27
Present Value of Hedges					$14.4	$0.29
Net Debt					$304.2	($6.14)
NAV					***$44.4***	***$1.00***
Shares Outstanding (MM)					49.5	

Source: Company Reports, MLV & Co. Research

As the company continues to execute on its development program and demonstrate the deliverability of its assets, we expect that investors will become more likely to assign value to its probable reserves and additional infrastructure. We have no exploration upside included in our NAV at this time.

Our NAV is inherently sensitive to changes in assumptions, especially with regards to our commodity price outlook. Note that all of MILL's reserves and production are in Alaska where its oil production is priced off the Alaska North Slope benchmark (generally a slight discount to Brent) and the natural gas market is a closed-loop system, separate from the lower-48 (the company typically receives $6-$7/Mcf). As a result, NYMEX gas prices have almost no bearing on our valuation. The following table highlights the sensitivity of our NAV to changes in long-term oil and natural gas prices.

Exhibit 2: Commodity Price Sensitivity Analysis

Oil Price ($/Bbl) \ Natural Gas Price ($/Mcf)	$3.50	$4.00	$4.50	$5.00	$5.50
$65	NM	NM	NM	NM	NM
$75	$0.00	$0.00	$0.00	$0.00	$0.00
$85	$1.00	$1.00	**$1.00**	$1.00	$1.00
$95	$1.75	$1.75	$1.75	$1.75	$1.75
$105	$2.75	$2.75	$2.75	$2.75	$2.75

Source: MLV & Co. Research

Exhibit 3: Summary Financial Model ($MM except per unit data; fiscal year-end April 30)

	Q1-15	Q2-15	Q3-15	Q4-15E	Q1-16E	Q2-16E	Q3-16E	Q4-16E	2014	2015E	2016E	2017E
E&P UNIT DATA												
Natural Gas:												
Production (MMcf/d)	6.3	6.1	6.0	7.7	9.3	9.8	10.3	10.8	2.2	6.5	10.1	11.9
Price ($/Mcf)	6.83	6.75	6.42	6.50	6.50	6.50	6.50	6.50	6.26	6.61	6.50	6.50
Benchmark	4.37	3.86	3.48	2.74	2.58	2.83	3.00	2.92	4.20	3.61	2.83	3.17
Crude Oil:												
Production (MBbl/d)	2.3	2.3	2.4	2.7	2.5	2.4	2.3	2.2	1.9	2.4	2.4	1.9
Price ($/Bbl)	100.44	87.28	57.26	50.91	56.19	60.11	63.37	65.99	100.85	72.87	61.20	71.49
Benchmark	103.34	91.12	60.48	50.91	57.33	61.33	64.67	67.33	99.88	76.46	62.67	73.08
Total Production (MBoe/d)	**3.3**	**3.3**	**3.4**	**4.0**	**4.1**	**4.1**	**4.0**	**4.0**	**2.2**	**3.5**	**4.0**	**3.9**
Per Boe:												
Lifting Costs	22.34	28.30	34.28	31.69	30.23	30.43	30.62	31.29	31.47	29.25	30.64	31.42
DD&A	55.70	66.70	62.46	60.00	58.00	56.00	54.00	52.00	40.91	61.09	55.04	50.00
G&A	31.20	43.34	23.52	22.69	19.90	20.09	20.27	20.90	37.82	29.79	20.28	21.02
FD&A	NA	NA	NA	NA	NA	NA	NA	NA	67.92	18.37	33.60	33.60
INCOME STATEMENT												
E&P Revenues	23.6	25.0	26.9	25.7	26.4	26.1	25.6	19.3	67.6	101.2	97.4	78.5
Non-E&P Revenues	0.3	0.3	0.6	0.7	0.8	0.8	0.8	0.8	1.1	1.8	3.2	3.2
Total Revenues	23.9	25.2	27.4	26.4	27.2	26.9	26.4	20.1	68.7	103.0	100.6	81.7
Exploration Expense	0.3	0.0	0.0	0.5	0.5	0.5	0.5	0.5	2.0	0.8	2.0	2.0
Lifting Costs	6.8	8.5	10.7	11.2	11.4	11.4	11.3	11.2	25.8	37.2	45.3	44.8
DD&A	17.0	20.1	19.5	21.2	21.9	20.9	20.0	18.7	33.5	77.8	81.4	71.4
G&A	9.5	13.0	7.4	8.0	7.5	7.5	7.5	7.5	31.0	37.9	30.0	30.0
Operating Income	(9.7)	(16.4)	(10.2)	(14.4)	(14.1)	(13.4)	(12.9)	(17.8)	(23.6)	(50.7)	(58.1)	(66.6)
Interest Expense	2.8	3.6	2.5	5.8	5.5	5.5	5.5	5.5	7.5	14.7	21.9	21.9
Other Income	(0.9)	(1.3)	(0.5)	0.0	0.0	0.0	0.0	0.0	(0.9)	(2.6)	0.0	0.0
Nonrecurring Items	(5.2)	(263.7)	(141.1)	0.0	0.0	0.0	0.0	0.0	(9.1)	(410.0)	0.0	0.0
Pretax Income	(19.2)	(285.7)	(155.3)	(21.3)	(20.7)	(20.0)	(19.5)	(24.4)	(43.5)	(481.4)	(84.7)	(93.1)
Income Taxes	(7.3)	(117.7)	(3.0)	(8.5)	(8.3)	(8.0)	(7.8)	(9.8)	(14.9)	(136.6)	(33.9)	(37.2)
Aftertax Income	(11.9)	(167.9)	(152.3)	(12.8)	(12.4)	(12.0)	(11.7)	(14.7)	(28.6)	(344.8)	(50.8)	(55.8)
Extraordinary Items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preferred Dividends	3.8	4.4	5.6	4.5	4.5	4.5	4.5	4.5	13.2	18.3	18.0	18.0
Net Income	(15.6)	(172.3)	(157.9)	(17.3)	(16.9)	(16.5)	(16.2)	(19.2)	(41.8)	(363.1)	(68.8)	(73.9)
FD Shares Outstanding	48.3	48.7	49.0	49.5	50.0	50.5	51.0	51.5	46.8	48.9	50.8	52.8
Reported EPS	**($0.34)**	**($3.72)**	**($3.39)**	**($0.37)**	**($0.36)**	**($0.34)**	**($0.33)**	**($0.39)**	**($0.94)**	**($7.80)**	**($1.42)**	**($1.47)**
Operating EPS	**($0.27)**	**($0.37)**	**($0.42)**	**($0.37)**	**($0.36)**	**($0.34)**	**($0.33)**	**($0.39)**	**($0.80)**	**($1.49)**	**($1.42)**	**($1.47)**
DCFPS	**$0.12**	**$0.15**	**$0.17**	**$0.06**	**$0.09**	**$0.08**	**$0.07**	**($0.05)**	**$0.27**	**$0.50**	**$0.19**	**($0.18)**
CASH FLOW STATEMENT												
Discretionary Cash Flow	5.5	7.0	8.0	3.0	4.2	4.0	3.6	(2.7)	11.8	23.4	9.1	(9.3)
EBITDAX	8.7	9.6	9.0	8.8	9.7	9.5	9.0	2.8	17.8	36.1	31.1	12.6
Asset Sales	0.0	0.0	4.2	11.5	0.0	0.0	0.0	0.0	0.0	15.7	0.0	0.0
Dividends Paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Expenditures	25.6	35.1	31.1	(36.8)	(22.9)	10.0	10.0	10.0	182.8	55.1	7.1	32.0
BALANCE SHEET												
Cash	5.2	15.6	2.4	28.4	55.4	49.4	43.4	30.4	6.4	28.4	30.4	2.0
Current Assets	79.4	90.5	120.0	146.0	173.0	167.0	161.0	148.0	71.2	146.0	148.0	119.6
PP&E (net)	675.7	416.8	241.4	171.6	126.7	115.4	104.9	95.8	680.2	171.6	95.8	54.7
Current Liabilities	75.8	92.2	109.1	109.1	109.1	109.1	109.1	109.1	74.9	109.1	109.1	109.1
Debt	205.3	219.0	225.8	200.8	200.8	200.8	200.8	200.8	184.2	200.8	200.8	213.4
Preferred Stock	100.2	118.9	131.8	131.8	131.8	131.8	131.8	131.8	97.8	131.8	131.8	131.8
Stockholders' Equity	240.6	80.9	(76.2)	(93.4)	(110.4)	(126.9)	(143.1)	(162.3)	252.7	(93.4)	(162.3)	(236.1)
RESERVES												
Year-end Reserves (MMBoe)	NA	NA	NA	NA	NA	NA	NA	NA	10.7	11.6	10.3	9.8
Reserves/Production	NA	NA	NA	NA	NA	NA	NA	NA	13.1	9.1	7.0	6.8
Year-end Proved Asset Value	NA	NA	NA	NA	NA	NA	NA	NA	252.4	271.5	235.8	219.1
DCFPS SENSITIVITIES												
Per $0.15/Mcf change in natural gas prices	NA	NA	NA	NA	NA	NA	NA	NA	1.0%	1.5%	6.0%	NM
Per $1.00/Bbl change in crude oil prices	NA	NA	NA	NA	NA	NA	NA	NA	5.8%	3.7%	9.4%	NM

Source: Company Reports, MLV & Co. Research

VALUATION

We use a DCF-based net asset value (NAV) approach to value E&P stocks. Our NAV calculation is derived from the company's SEC PV10, adjusted for our long-term price deck. To this we add a risked valuation of the company's upside potential and other non-E&P assets, before subtracting net debt.

We believe this methodology is a more effective means of comparing companies with significantly different asset profiles and provides a more accurate accounting of a company's upside potential.

We arrive at our target price by applying a 1x multiple to our NAV valued at long-term commodity prices of $85/Bbl (WTI) and $4.50/Mcf (Henry Hub). Refer to the following table for our near-term commodity price deck.

Commodity Price Forecast	2015E	2016E	2017E	1Q15	2Q15E	3Q15E	4Q15E	1Q16E	2Q16E	3Q16E	4Q16E
CRUDE - WTI	57.12	70.00	80.00	48.49	56.00	60.00	64.00	66.00	70.00	70.00	74.00
NATURAL GAS - HENRY HUB	2.78	3.00	3.25	2.87	2.50	2.75	3.00	3.00	2.75	3.00	3.25

Source: MLV & Co. Research

INVESTMENT RISK

Exploration and production companies face a number of market, business, and sector risks including, but not limited to the following:

- Commodity price risk
- Capital markets risk
- Operational risk
- Regulatory and environmental risk
- Weather related delays/downtime
- Midstream constraints

IMPORTANT DISCLOSURES

Analyst Certification

The research analyst, Chad Mabry, who is primarily responsible for the preparation of this research report, certifies that (i) all views expressed in this research report accurately reflect the analyst's personal views about any and all the subject issuer and security featured in this report and (ii) no part of the analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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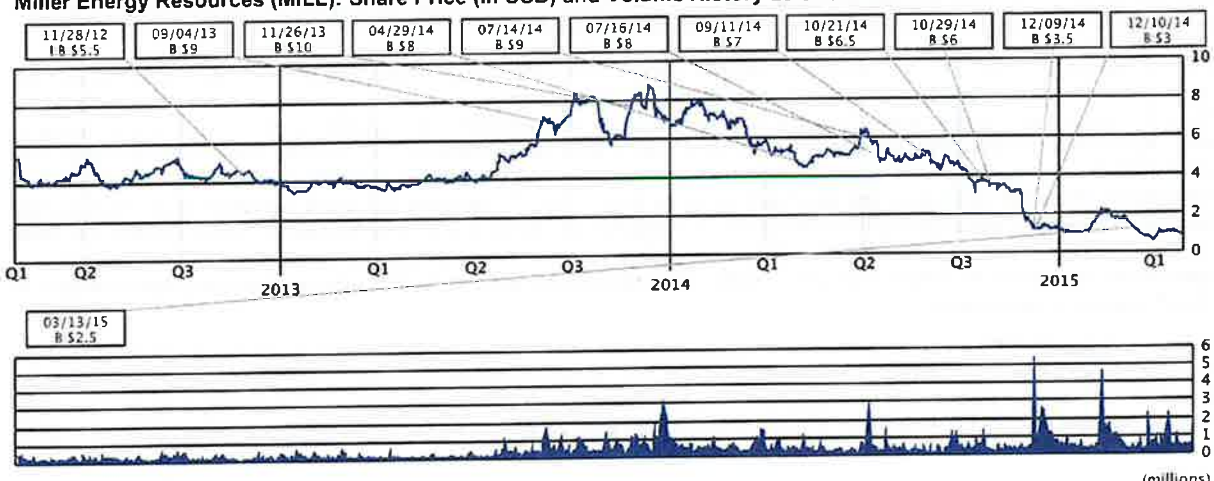
MLV disclosure price charts are updated within the first fifteen days of each new calendar quarter per FINRA regulations. Price charts for companies initiated upon in the current quarter, and rating and target price changes occurring in the current quarter, will not be displayed until the following quarter. Additional information on recommended securities is available upon request.

All required current disclosures on subject companies covered in this report may be obtained by contacting Randy Billhardt at MLV at 212-542-5882 or rbillhardt@mlvco.com.

Miller Energy Resources (MILL): Share Price (in USD) and Volume History as of 04-30-2015



Created by BlueMatrix

MLV RATING ALLOCATION (as of April 30, 2015)

E&P Rating System

Buy: The stock's total return is expected to outperform the relevant benchmark over the next 12 months.

Hold: The stock's total return is expected to be in line with the relevant benchmark over the next 12 months.

Sell: The stock's total return is expected to underperform the relevant benchmark over the next 12 months.

*Benchmark is defined as the Oil Exploration and Production Index (Bloomberg ticker: EPX Index).

	COMPANIES UNDER COVERAGE		INVESTMENT BANKING SERVICE WITHIN 12 MONTHS	
Rating	Count	Percent	Count	Percent
BUY	130	68.42%	61	32.11%
HOLD	60	31.58%	16	8.42%
SELL	0	0.00%	0	0.00%

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MLV or any affiliates in the past 12 months received compensation for investment banking services from Miller Energy Resources.

MLV or any affiliate expects to receive or intends to seek compensation for investment banking services from Miller Energy Resources in the next 3 months.

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Noble
NOBLE FINANCIAL capital markets

EXHIBIT
10
6/4/19 AG

EQUITY RESEARCH

Jul 30, 2015

Basic Materials

NYQ

MILL

Hold

Initiation

Current Price
$0.28

Market Capitalization
12.67M

Shares Outstanding
46.66M

Float
36.22M

Institutional Holdings
24.80%

12-month Low/High
$0.17/$5.35

Average 90-day Volume
688,403

Fiscal Year End
Apr 30

Revenues ($ MIL)

Period	2015A	2016E	2017E
Q1	25.4A	22.3E	
Q2	24.2A	21.3E	
Q3	20.3A	15.4E	
Q4	15.5A	15.5E	
	63.0A	74.4E	69.4E

EPS ($ MIL)

Period	2015	2016E	2017E
Q1	$(0.33)A	$(0.55)E	
Q2	$(3.72)A	$(0.99)E	
Q3	$(3.39)A	$(1.05)E	
Q4	$(2.48)A	$(1.06)E	
	$(9.95)A	$(3.64)	$(4.16)E

Miller Energy Resources

MILL releases unaudited fourth quarter and fiscal 2015 results

- Operating results were generally in line with expectations, but oil pricing issues (traditional premium to WTI has been lost) are a concern
- Management sets new strategic direction designed to address its financial position, rationalize assets, invest in core assets, and streamline the organization
- Liquidity issues remain a concern given MILL's small cash and large account payable positions but Alaska Carry-Forward Loss Credits may help
- We have lowered our estimated net asset value from our initiation report in April to reflect higher debt and lower energy prices

(Houston, TX) Miller Energy Resources is an independent energy exploration and production company with proved reserves (62% oil) located mainly in Alaska. The company acquired Savant Alaska LLC, which operates in northern Alaska, on December 12, 2014. MILL sold substantially all of its Tennessee oil and gas properties on November 20, 2014. MILL is the only publicly traded pure play on Alaska drilling. Current assets represent four primary fields in Alaska: The Redoubt Field (Osprey), Northfork Field, and West McCarther Field near the Cook Inlet and the Bademi Field (from Savant) in Northern Alaska. In response to low oil prices, MILL is currently focused on drilling for natural gas in its Northfork Field.

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Miller Energy Resources MILL | CURRENT PRICE $0.28 | Hold | 07/30/2015
Michael Heim mheim@noblefcm.com (314) 308-9711

MILL reported fourth quarter and fiscal year ended April 30, 2015 results. The company has not filed a 10-K choosing to release unaudited financial numbers. The company has not disclosed updated reserve information. Management expects to file a 10-K within the next few weeks. Highlights of the quarter include:

* Reported EBITDA of $23.1 million versus $33.3 million last quarter. Excluding receipts from Alaska tax credits and benefits from the sale of derivative contracts, EBITDA was $8.4 million versus $11.8 million. Earnings per share was $(2.48) versus $(3.39). Excluding charges associated with the non-cash write-down of assets, earnings from continuing operations were $(1.43) versus $(0.93). Results were below our expectations beginning at the revenue line which was $15.5 million versus our expectations for $16.8 million. Production growth of 5% QTQ was generally in line with expectations. However, realized oil prices of $48.09 (vs. $57.26) were significantly below our expectations. Traditionally, the company has received oil pricing more in line with Brent Pricing and $5-$10 above WTI making this quarter's results perhaps problematic.

* Operational results helped offset lower top line numbers. MILL management moved aggressively to reduce costs and that was reflected in its operational results. Lease Operating Expense fell 22% QTQ both on an absolute and a per BOE basis. Transportation costs fell 28%. General and Administrative costs fell 11%. Depreciation, depletion and amortization costs per unit fell 52% due largely to the write-down of assets in recent quarters. Operating income, before taking into consideration asset write-downs, or the gain on the sale of derivatives, was near expectations.

* MILL continues to face liquidity concerns and has deferred paying preferred dividends. The company has only $6 million on hand, is generating negative operating EBITDA and has $38 million in accounts payable. On the positive side, it expects to receive $41 million in Alaska State Tax Credits over the next twelve months and has reduced its capital expenditures to $5 million. The steps the company has taken have been admirable but may not be enough in light of further declines in energy prices this summer.

* Management has reset its strategic goals to reflect lower energy prices and its weakened financial position. First, it seeks to reposition its financial position. Along those lines, it has signed a commencement agreement with a private financing source that would largely pay down existing debt. Second, it seeks to rationalize non-core assets. Possible steps include a sale/lease-back of the rigs MILL owns, selling an interest in non-core assets such as Badami, or giving an equity position to potential drilling partners. Third, MILL will develop core assets in the Cook Inlet. It believes it can do this through lower cost, lower risk expenditures to rework wells and the drilling of proved reserves. Finally, it will continue to streamline operations to make the company profitable under a sustained oil price environment of $50-$60 per barrel. Management reiterated it has no intention of filing for bankruptcy.

* We are reducing our NAV estimate for the company to reflect an increase in debt, a lower price deck (our long-term oil price assumption is now $65 vs $70), and the elimination of MILL's derivatives position. Our new NAV estimate is $0.80 per share. We continue to rate the shares as Hold because while we believe there is upside to MILL's asset value, we believe the firm faces significant hurdles to unleashing this value.

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Valuation Summary

We estimate a net asset value for MILL to be $0.80. This value stems from an energy reserve estimated value of $447 million less taxes (July 31, 2014 reserve audit) which we reduce to $338 million to reflect our long-term oil price estimated value of $65 and $3.75 for oil and gas respectively. We then subtract off $190 million of debt and legal obligation and $135 million to reflect preferred stock obligations. Finally, we add back cash outstanding and upcoming state drilling credit payments yielding a net asset value of $36 million, or $0.80 per share.

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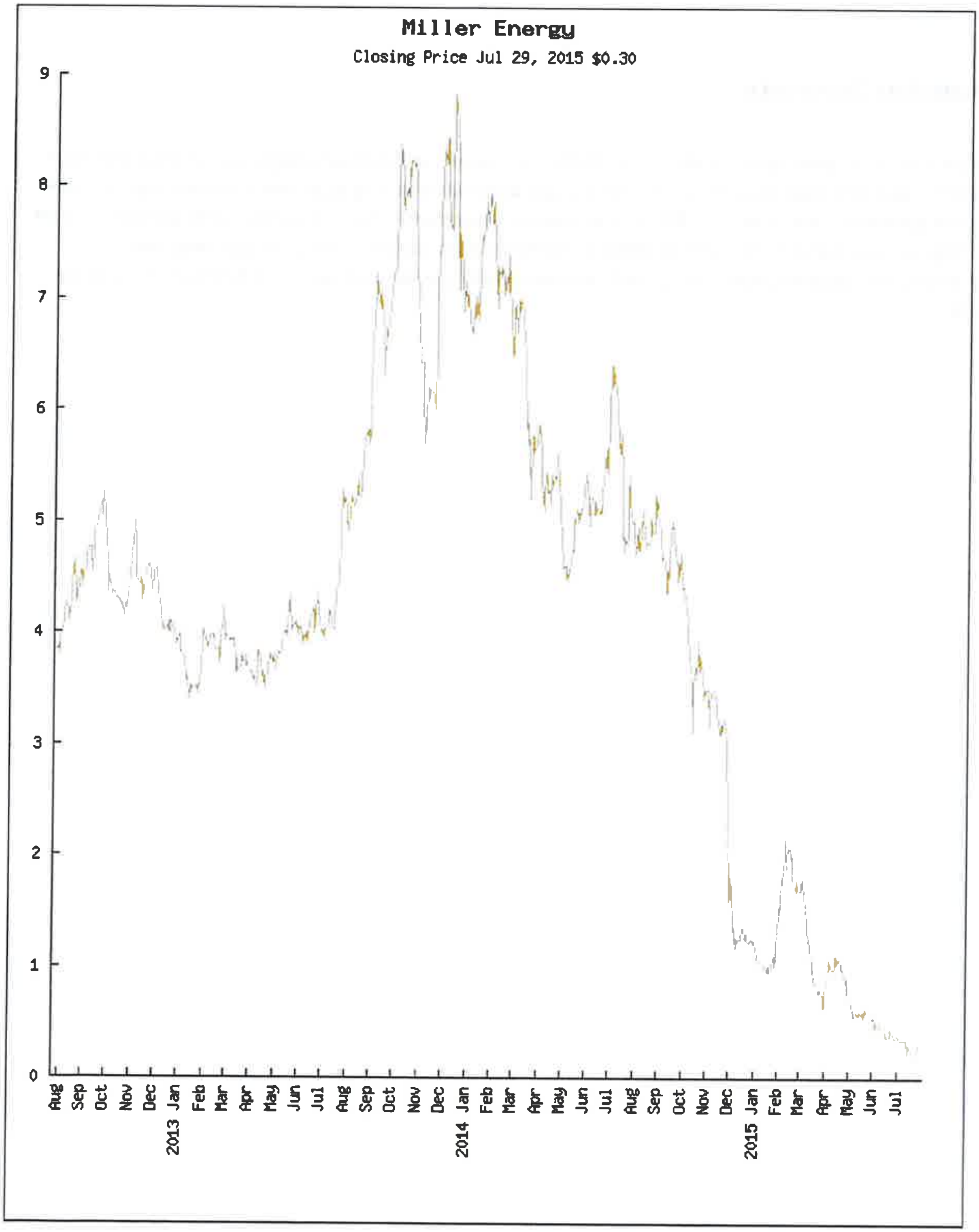

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BUY: potential return is >15% above the current price	58%	32%
HOLD: potential return is -15% to 15% of the current price	30%	3%
SELL: potential return is >15% below the current price	0%	0%

Report ID: 8577

PREVIEW OF EARNINGS

BREAN CAPITAL, LLC

Miller Energy Resources Inc. (MILL/ NYSE)

September 8, 2014

Curtis Trimble, 713-444-3560 ctrimble@breancapital.com

Miller to Post Q1:15 Results Wednesday, 9/10

Buy

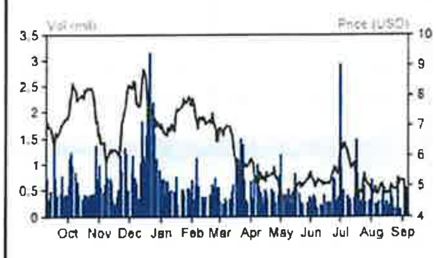
TP: $9.00

Investment Summary

This Wednesday, September 10th, we expect Miller management to report fiscal Q1:15 results consisting of 2,799 boepd of production, ($0.24) in EPS, and $0.20 in CFPS. Due to well shut-ins for adjacent completions and maintenance work, this 2,799 boepd production expectation represents an 8% sequential decline from fiscal Q4:14's 2,970 boepd of production. Outside of operating activities, Miller enjoyed an eventful quarter and subsequent few weeks with an $18.4MM preferred stock offering, receipt of a $31.2MM tax credit from the Alaska government, which followed a $21.8MM tax credit received in June 2014, and completion of the West McArthur River Unit-2 sidetrack. While fiscal Q1:15 results likely still reflect a company in a transitional state, as exhibited by MILL's decision to market for sale its legacy Tennessee assets, we continue to view MILL shares positively, as reflected by our BUY rating and $9 target price.

Price	$4.68
52-Week High/Low	$8.97-$4.40
Shares Out (mm)	46.3
Market Cap (mm)	$217
Avg. Daily Vol (000)	408,091
Short Interest	14.0%
Public Market Float (mm)	33
Cash (mm)	$3.1
LTD (MM)	$82.0
EV (mm)	NA
Book Value / Share	7.71
Next Qtr's Production Estimate (bcfe)	2
Next Qtr's Production Estimate (mboe)	252
% Liquids	88%
Proven Reserves (mmboe)	11
% PUD	41%

CFPS	FY14A	FY15E	FY16E
July	$0.03	$0.20	$0.46
Oct	$0.19	$0.31	$0.54
Jan	$0.13	$0.33	$0.61
Apr	$0.13	$0.42	$0.68
FY (Apr)	**$0.47**	**$1.26**	**$2.31**
Mboepd			
July	1.4	2.8	5.5
Oct	2.1	3.6	6.2
Jan	2.5	4.0	7.0
Apr	3.0	4.6	8.0
FY (Apr)	**2.2**	**3.7**	**6.7**



Source: Bloomberg

Discussion

For fiscal Q1:15, looking for 2,799 boepd, ($0.24) in EPS, and $0.20 in CFPS. Wednesday, we expect Miller to post fiscal Q1:15 production of 2,799 boepd, 88% of which we expect to be crude oil, generating EPS of ($0.24) and CFPS of $0.20. While Miller brought the West McArthur River Unit 2 sidetrack on production mid-Q1:15 at a 7-day average rate of 630 boepd, we expect shut-ins to drill and complete this well and others to result in an 8% sequential production decline from fiscal Q4:14's 2,970 boepd. As such, we expect management's commentary to be more forward looking with respect to operations than backward focused. After the WMRU-2B well was completed, Miller moved the Patterson 191 rig to drill the West Foreland 3 natural gas well.

Reserves post upside subsequent to closing Q1:15. On August 20, 2014, Miller management announced that its proved reserves base increased 11.4% in fiscal Q1:15 to 11.7 MMboe from 10.5 MMboe. The associated PV-10 for these reserves amounted to $447.6MM vs. a prior estimate of $360.9MM. After a change in independent 3rd-party reserve engineering firms resulted in a 3.7 MMboe downward PUD revision at the end of fiscal 2014, we viewed fiscal Q1:15's positive revision favorably.

Balance sheet receives several capital injections. In fiscal Q1:15 and in subsequent weeks, Miller completed an $18.4MM Series D convertible preferred stock offering, received a $31.2MM tax credit, and obtained a $250MM revolving credit facility with a $60 borrowing base. This provides Miller with ~$70MM in available liquidity.

Conference call Wednesday morning. After posting results prior to market open on Wednesday, 9/10, MILL management will host a conference call at 10:30 AM ET. Interested parties may participate in the call by dialing (888) 438-5448 with conference call ID 2289750.

BUY rated with $9 target price. Miller's expanding balance sheet better enables management to prosecute its drilling plans across the company's soon-to-be 866,000 net acres. With three rigs running at Redoubt Shoals, West Foreland, and North Fork, production soon should begin a significant ramp. We look forward to Miller management delineating near- to medium-term plans for increasing production on its Q1:15 conference call. Our DCF-based valuation model generates a $9/share valuation estimate for Miller. With substantial estimated upside to this $9 target, we retain a BUY rating on MILL shares.

Valuation / Target Price

We arrive at our $9 target price for MILL shares using a production-driven DCF methodology combined with a 16.0% WACC, $85/bbl crude oil, and $4.50/mcf natural gas. The key driver of our production estimates are the 133 future drilling locations we estimate MILL retains in Alaska on its more than 680,000 net acres of leasehold.

PENGAD 800-631-6989 EXHIBIT 71 6/4/19 AG

Miller Energy Resources (NASDAQ: MILL)															
Fiscal Period	1Q13	2Q13	3Q13	4Q13	2013	1Q14	2Q14	3Q14	4Q14	2014	1Q15E	2Q15E	3Q15E	4Q15E	2015E
Period Ends	Mar-13	Jun-13	Sep-13	Dec-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Dec-15
Production															
Daily Production															
Crude Oil (Bbls/d)	790	789	824	835	810	1,282	1,992	2,385	1,832	1,876	2,463	3,158	3,503	4,006	3,287
Natural Gas (Mcf/d)	398	416	428	213	364	645	786	388	6,829	2,175	2,015	2,583	2,866	3,278	2,690
Natural Gas Liquids (Bbls/d)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equivalent (Boe/d)	856	859	895	870	870	1,390	2,124	2,450	2,970	2,238	2,799	3,588	3,980	4,553	3,736
Sequential Growth Rate %	0%	1%	5%	-3%	-15%	56%	55%	17%	21%	157%	-8%	30%	12%	14%	67%
% Natural Gas	8%	8%	8%	4%	7%	8%	6%	3%	38%	16%	12%	12%	12%	12%	12%
Hedged Pricing															
Crude Oil Hedged ($/Bbl)	$99.59	$105.68	$98.77	$102.17	$101.53	$104.57	$102.65	$94.58	$96.63	$100.85	$96.33	$92.50	$87.50	$90.00	$91.10
Natural Gas Hedged ($/MMBtu)	$2.31	$2.95	$3.86	$6.14	$3.52	$4.63	$3.91	$3.39	$5.40	$6.26	$5.99	$5.79	$5.59	$5.99	$5.83
Natural Gas Liquids Hedged ($/Bbl)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$30.40	$30.40	$30.40	$27.20	$25.60	$28.80	$28.00
Income Statement ($ in millions)															
Oil and Gas Revenues	$7.7	$8.1	$6.9	$7.3	$29.9	$12.5	$18.7	$16.5	$21.8	$69.5	$22.4	$27.9	$29.7	$35.0	$115.0
Other Revenues	$0.5	$2.8	$1.1	$0.5	$4.9	$0.5	$0.1	$0.2	$0.3	$1.1	$0.3	$0.3	$0.3	$0.3	$1.4
Total Revenues	$8.3	$10.8	$8.0	$7.7	$34.8	$13.0	$18.8	$16.6	$22.1	$70.6	$22.8	$28.3	$30.0	$35.3	$116.4
Lease Operating Costs	$4.0	$4.9	$4.1	$11.7	$24.7	$6.3	$6.2	$5.8	$7.5	$25.8	$6.3	$7.3	$7.4	$7.6	$28.5
Cost of other revenue	$0.5	$2.5	$1.1	$0.1	$4.2	$0.3	$0.3	$0.3	$0.3	$1.1	$0.2	$0.3	$0.3	$0.3	$1.1
DD&A Expense	$3.1	$3.1	$3.3	$3.6	$13.2	$5.7	$9.0	$7.6	$11.2	$33.5	$10.1	$13.4	$15.4	$18.0	$56.9
G&A Expense	$5.3	$6.2	$5.5	$5.7	$22.8	$6.4	$7.1	$7.6	$10.7	$31.7	$9.3	$8.5	$9.0	$9.8	$36.6
Exploration	$0.0	$0.0	$0.2	$1.2	$1.5	$0.3	$0.1	$0.4	$1.2	$2.0	$0.4	$0.4	$0.4	$0.4	$1.4
Impairments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other Operating Expenses	($0.0)	($0.0)	$0.0	$0.0	($0.1)	$0.0	$0.0	$1.3	$0.9	$2.1	$0.0	$0.0	$0.0	$0.0	$0.0
Total Expense	$13.3	$16.9	$14.5	$22.5	$67.2	$19.2	$23.1	$23.2	$32.1	$97.6	$26.6	$30.1	$32.7	$36.4	$125.8
Operating Income	($5.0)	($6.1)	($6.5)	($14.8)	($32.3)	($6.2)	($4.3)	($6.6)	($10.0)	($27.0)	($3.8)	($1.8)	($2.7)	($1.1)	($9.4)
Net Interest Expense	$0.1	$1.5	$1.1	$1.5	$4.3	$2.3	$1.4	$0.4	$3.4	$7.5	$5.1	$5.1	$5.1	$5.1	$20.6
Other (Income) Expense	($8.9)	$2.3	$1.7	($1.6)	($6.4)	$3.1	$4.2	($1.7)	($11.8)	($6.2)	$0.0	$0.0	$0.0	$0.0	$0.0
Total Other (Income) Expenses	($8.7)	$3.9	$2.8	($0.1)	($2.1)	$5.4	$5.6	($1.3)	($8.3)	$1.3	$5.1	$5.1	$5.1	$5.1	$20.6
Pre-Tax Income	$3.7	($10.0)	($9.3)	($14.7)	($30.2)	($11.5)	($9.8)	($5.3)	($1.6)	($28.3)	($9.0)	($7.0)	($7.9)	($6.2)	($30.0)
Total Tax Provision	$1.1	($3.7)	($3.9)	($3.2)	($9.8)	($4.6)	($4.9)	($2.2)	($3.2)	($14.9)	($3.6)	($2.8)	($3.1)	($2.5)	($12.0)
Income Before Extraordinary Items	$2.6	($6.2)	($5.3)	($11.5)	($20.4)	($6.9)	($5.0)	($3.1)	$1.6	($13.4)	($5.4)	($4.2)	($4.7)	($3.7)	($18.0)
Non-Recurring Items, Net	($6.3)	$1.3	$1.0	$0.1	($3.9)	$1.8	$2.1	($1.0)	$17.7	$20.7	$0.0	$0.0	$0.0	$0.0	$0.0
Recurring Net Income to Common	($6.1)	($5.0)	($6.2)	($13.2)	($29.4)	($7.6)	($6.2)	($7.8)	$0.6	($21.0)	($11.0)	($9.8)	($10.3)	($9.3)	($40.5)
Recurring EPS - Diluted	($0.14)	($0.12)	($0.12)	($0.32)	($0.69)	($0.17)	($0.14)	($0.17)	$0.01	($0.47)	($0.24)	($0.21)	($0.22)	($0.20)	($0.88)
Recurring CFPS - Diluted	$0.10	($0.06)	($0.03)	($0.26)	($0.22)	$0.03	$0.18	$0.13	$0.13	$0.47	$0.20	$0.31	$0.33	$0.42	$1.26
Diluted Shares Out (MM)	43.8	42.6	43.4	41.0	42.7	43.5	44.1	44.9	45.4	44.4	45.7	46.0	46.3	46.6	46.2
Total Corporate EBITDAX	$2.9	$0.2	$0.8	($5.0)	($1.0)	$4.3	$10.4	$7.0	$16.5	$38.1	$14.1	$19.4	$20.6	$24.8	$78.8
Margin Analysis															
Oil & Gas Revenues ($/Boe)	$100.27	$103.09	$83.24	$90.90	$94.19	$100.16	$96.70	$73.06	$79.72	$85.03	$89.08	$85.57	$81.02	$83.51	$84.36
Lease Operating Expense ($/Boe)	$51.56	$62.33	$50.02	$146.59	$77.76	$50.09	$31.89	$25.83	$27.58	$31.56	$24.82	$22.34	$20.11	$18.10	$20.90
Other REVs cost ($/boe)	$7.11	$31.80	$12.77	$1.31	$13.19	$2.27	$1.57	$1.14	$1.11	$1.40	$0.99	$0.88	$0.78	$0.70	$0.82
Total Operating Costs ($/Boe)	$58.67	$94.13	$62.79	$147.90	$90.95	$52.36	$33.46	$26.96	$28.69	$32.97	$25.81	$23.22	$20.89	$18.80	$21.71
Gross Margin ($/Boe)	$41.61	$8.96	$20.46	($57.00)	$3.24	$47.80	$63.24	$46.10	$51.03	$52.06	$63.27	$62.34	$60.13	$64.71	$62.65
G&A Expense	$69.15	$79.44	$67.03	$71.74	$71.78	$50.85	$36.97	$33.66	$38.95	$38.86	$37.03	$25.92	$24.63	$23.39	$26.85
Operating Income ($/Boe)	($27.54)	($70.48)	($46.57)	($128.74)	($68.55)	($3.05)	$26.27	$12.43	$12.05	$13.21	$26.24	$36.42	$35.51	$41.32	$35.80
Net Interest Exp	$1.70	$19.67	$21.79	$37.76	$20.42	$34.51	$20.67	$14.70	$33.07	$25.29	$42.71	$32.95	$29.38	$25.69	$31.56
Cash Taxes	$0.00	$0.32	$0.00	$0.00	$0.08	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Unit Cash Flow ($/Boe)	($29.24)	($90.47)	($68.36)	($166.50)	($89.04)	($37.56)	$5.60	($2.26)	($21.02)	($12.08)	($16.47)	$3.47	$6.13	$15.63	$4.24
DD&A Expense ($/Boe)	$40.54	$39.18	$40.58	$45.49	$41.47	$45.51	$46.66	$33.91	$40.90	$41.04	$40.00	$41.00	$42.00	$43.00	$41.70
Cash Flow Statement ($ in millions)															
Operating Cash Flow	$4.3	($2.4)	($1.9)	($11.6)	($11.5)	($0.9)	$5.6	$3.1	$0.1	$7.8	$3.4	$8.6	$9.7	$14.1	$35.8
Decrease (Increase) in Working Capital	($0.7)	$5.5	$1.3	($6.0)	$0.0	($3.5)	$2.9	$8.1	($0.0)	$7.5	$0.0	$0.0	$0.0	$0.0	$0.0
Other	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Cash Flow From Operations	$3.6	$3.1	($0.6)	($17.6)	($11.5)	($4.4)	$8.5	$11.2	$0.0	$15.3	$3.4	$8.6	$9.7	$14.1	$35.8
Cash Flow From Investing Activities	($7.3)	($9.6)	($13.9)	($5.1)	($35.9)	($18.3)	($41.3)	($22.5)	($100.7)	($182.8)	($10.5)	($34.3)	($31.4)	($39.1)	($115.4)
Free Cash Flow	($3.7)	($6.5)	($14.5)	($22.7)	($47.4)	($22.7)	($32.8)	($11.3)	($100.7)	($167.5)	($7.2)	($25.7)	($21.7)	($25.1)	($79.6)
Per Share	($0.08)	($0.15)	($0.33)	($0.55)	($1.11)	($0.52)	($0.74)	($0.25)	($2.22)	($3.77)	($0.16)	($0.56)	($0.47)	($0.54)	($1.72)
Cash Flow From Financing Activities	$1.6	$9.0	$11.6	$23.8	$46.0	$23.3	$51.5	$2.7	$93.2	$170.7	$3.9	$25.7	$21.7	$25.1	$76.3
Net Cash Flow	($2.1)	$2.5	($2.9)	$1.1	($1.4)	$0.6	$18.7	($8.6)	($7.4)	$3.2	($3.2)	$0.0	$0.0	$0.0	($3.2)
Balance Sheet ($ in millions)															
Total Current Assets	$13.1	$25.5	$13.3	$30.6	$30.6	$40.1	$41.1	$51.5	$71.2	$71.2	$68.0	$68.0	$68.0	$68.0	$68.0
Net Property, Plants and Equipment	$478.1	$481.1	$490.8	$486.0	$486.0	$503.8	$554.7	$568.8	$644.8	$644.8	$644.6	$664.8	$680.2	$700.6	$700.6
Other Assets, Net	$55.3	$57.5	$58.4	$58.8	$58.8	$59.1	$50.6	$50.8	$50.8	$50.8	$50.8	$50.8	$50.8	$50.8	$50.8
Total Assets	$546.5	$564.1	$562.5	$575.4	$575.4	$603.1	$646.4	$671.1	$766.8	$766.8	$763.4	$783.6	$798.9	$819.3	$819.3
Current Portion of Long-Term Debt	$1.5	$3.0	$4.5	$6.0	$6.0	$6.0	$6.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other Current Liabilities	$18.4	$21.0	$24.7	$20.3	$20.3	$35.9	$38.4	$60.8	$74.9	$74.9	$74.9	$74.9	$74.9	$74.9	$74.9
Total Current Liabilities	$19.9	$24.0	$29.2	$26.3	$26.3	$41.9	$44.4	$60.8	$74.9	$74.9	$74.9	$74.9	$74.9	$74.9	$74.9
Long-Term Debt	$38.5	$39.2	$37.7	$51.6	$51.6	$51.6	$68.0	$74.3	$174.7	$174.7	$181.9	$210.4	$235.0	$263.0	$263.0
Other Long-Term Liabilities	$168.8	$183.9	$180.0	$177.4	$177.4	$174.8	$171.9	$170.0	$166.6	$166.6	$163.1	$160.3	$157.1	$154.6	$154.6
Preferred Equity	$0.0	$14.5	$16.6	$31.2	$31.2	$53.7	$85.0	$92.0	$92.8	$92.8	$92.8	$92.8	$92.8	$92.8	$92.8
Common Equity	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Additional Paid-In Capital	$73.0	$82.4	$85.1	$88.2	$88.2	$89.9	$94.1	$97.8	$98.8	$98.8	$100.3	$101.9	$103.4	$105.0	$105.0
Retained Earnings	$226.4	$220.1	$213.8	$200.7	$200.7	$191.3	$183.0	$176.2	$158.9	$158.9	$150.6	$143.6	$135.9	$129.3	$129.3
Less: Treasury stock (At Cost)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	($0.3)	($0.3)	($0.3)	($0.3)	($0.3)
Total Shareholder Equity	$299.4	$317.0	$315.6	$320.1	$320.1	$334.9	$362.1	$366.0	$350.5	$350.5	$343.5	$338.0	$331.9	$326.8	$326.8
Total Liabilities & Shareholders' Equity	$546.5	$564.1	$562.5	$575.4	$575.4	$603.1	$646.4	$671.1	$766.8	$766.8	$763.4	$783.6	$798.9	$819.3	$819.3
Book Value Per Share	$7.23	$7.45	$7.28	$7.38	$7.38	$7.71	$8.21	$8.15	$7.73	$7.73	$7.57	$7.45	$7.32	$7.21	$7.21
Net Debt/Net Capitalization	11.8%	11.8%	11.8%	15.2%	15.2%	14.7%	17.0%	16.9%	33.3%	33.3%	34.8%	38.4%	41.5%	44.6%	44.6%
Working Capital	($6.8)	$1.5	($15.9)	$4.3	$4.3	($1.8)	($3.3)	($9.4)	($3.7)	($3.7)	($6.9)	($6.9)	($6.9)	($6.9)	($6.9)

(Sources: company data and Brean Capital, LLC estimates)

RELATED COMPANIES

Company	Ticker	Rating	Price
Miller Energy Resources Inc.	MILL	Buy	$4.68

Company Description

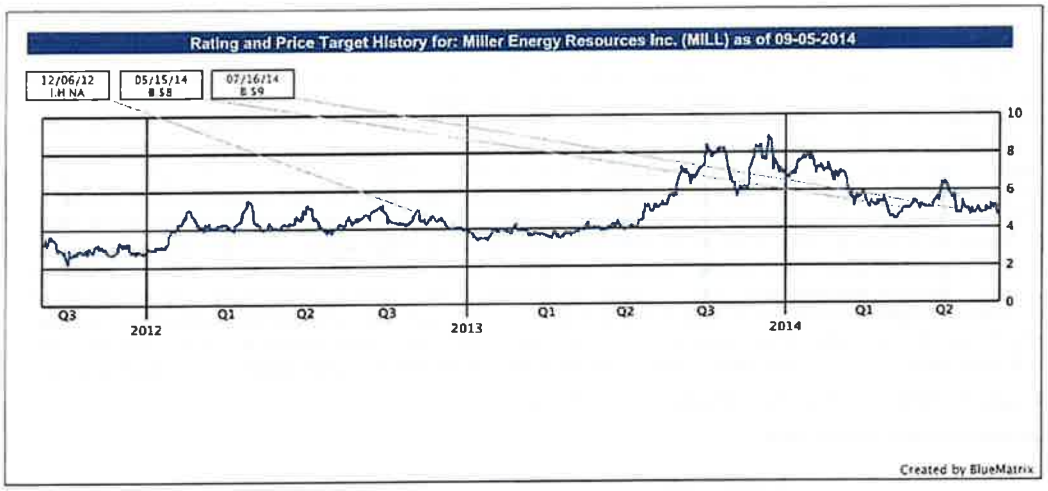
Based in Knoxville, TN, Chairman of the Board Deloy Miller founded Miller Energy Resources in the 1970s. Historically an Appalachian Basin producer before the company's 2009 entry into Alaska, Miller drilled over 5,200 wells from New York to Alabama. Since entering Alaska several years ago, Miller remained acquisitive in that area while also increasing the company's level of drilling activity in Alaska.

Risks

Miller Energy Resources Inc. (MILL) As a comparatively small operator in the notoriously harsh Alaska oil and gas sector, Miller incurs out-sized risks with respect to its ability to predictably execute day-to-day drilling and production operations. Also, the geology in Alaska remains particularly challenging, placing the company's estimates of activity levels and their resulting benefits at risk. Further, the markets for energy equities and the crude oil and natural gas commodities which they sell remain volatile, affecting the company's market reception and access to future financing.

Important Disclosures

Ratings and Target Price History



At the time this report was published, Brean Capital, LLC made a market in the securities of Miller Energy Resources Inc. .

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Brean Capital, LLC Stock Rating System

Buy - Expected to appreciate by at least 10% within the next 12 months.

Hold - Fully valued, not expected to appreciate or decline materially within the next 12 months.

Sell - Expected to decline by at least 10% within the next 12 months.

			IB Serv./ Past 12Mos.	
Rating Category	**Count**	**Percent**	**Count**	**Percent**
BUY	125	75.30%	19	15.20%
HOLD	36	21.69%	1	2.78%
SELL	5	3.01%	0	0.00%
NOT RATED				

Note: Stock price volatility may cause temporary non-alignment of some ratings with some target prices.

Analyst Certification

I, Curtis Trimble, hereby certify that the views expressed in this research report accurately reflect our personal views about any and all of the subject securities or issuers referred to in this document. The analyst and associate analyst further certify that they have not received and will not be receiving direct or indirect compensation in exchange for expressing the recommendation contained in this publication.

Disclaimers

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OMB APPROVAL	
OMB Number:	3235-0073
Expires:	October 31, 2021
Estimated average burden hours per response	475.48

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

(Exact name of registrant as specified in its charter)

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification Number)

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

(Name, address, including zip code, and telephone number, including area code, of agent for service)

(Approximate date of commencement of proposed sale to the public)

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box: ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☐

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐ Accelerated filer ☐
Non-accelerated filer ☐ Smaller reporting company ☐
Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered	Proposed maximum offering price per unit	Proposed maximum aggregate offering price	Amount of registration fee

Notes to the "Calculation of Registration Fee" Table ("Fee Table"):

1. Specific details relating to the fee calculation shall be furnished in notes to the Fee Table, including references to provisions of Rule 457 (§230.457 of this chapter) relied upon, if the basis of the calculation is not otherwise evident from the information presented in the Fee Table.

2. If the filing fee is calculated pursuant to Rule 457(o) under the Securities Act, only the title of the class of securities to be registered, the proposed maximum aggregate offering price for that class of securities, and the amount of registration fee need to appear in the Fee Table. Where two or more classes of securities are being registered pursuant to General Instruction II.D., however, the Fee Table need only specify the maximum aggregate offering price for all classes; the Fee Table need not specify by each class the proposed maximum aggregate offering price (see General Instruction II.D.).

3. If the filing fee is calculated pursuant to Rule 457(r) under the Securities Act, the Fee Table must state that it registers an unspecified amount of securities of each identified class of securities and must provide that the issuer is relying on Rule 456(b) and Rule 457(r). If the Fee Table is amended in a post-effective amendment to the registration statement or in a prospectus filed in accordance with Rule 456(b)(1)(ii) (§230.456(b)(1)(ii) of this chapter) , the Fee Table must specify the aggregate offering price for all classes of securities in the referenced offering or offerings and the applicable registration fee.

4. Any difference between the dollar amount of securities registered for such offerings and the dollar amount of securities sold may be carried forward on a future registration statement pursuant to Rule 457 under the Securities Act.

GENERAL INSTRUCTIONS

I. Eligibility Requirements for Use of Form S-3

This instruction sets forth registrant requirements and transaction requirements for the use of Form S-3. Any registrant which meets the requirements of I.A. below ("Registrant Requirements") may use this Form for the registration of securities under the Securities Act of 1933 ("Securities Act") which are offered in any transaction specified in I.B. below ("Transaction Requirement") provided that the requirement applicable to the specified transaction are met. With respect to majority-owned subsidiaries, see Instruction I.C. below. With respect to well-known seasoned issuers and majority-owned subsidiaries of well-known seasoned issuers, see Instruction I.D. below.

A. Registrant Requirements. Registrants must meet the following conditions in order to use this Form S-3 for registration under the Securities Act of securities offered in the transactions specified in I. B. below:

1. The registrant is organized under the laws of the United States or any State or Territory or the District of Columbia and has its principal business operations in the United States or its territories.

2. The registrant has a class of securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934 ("Exchange Act") or a class of equity securities registered pursuant to Section 12(g) of the Exchange Act or is required to file reports pursuant to Section 15(d) of the Exchange Act.

3. The registrant:

(a) has been subject to the requirements of Section 12 or 15(d) of the Exchange Act and has filed all the material required to be filed pursuant to Section 13, 14 or 15(d) for a period of at least twelve calendar months immediately preceding the filing of the registration statement on this Form; and

(b) has filed in a timely manner all reports required to be filed during the twelve calendar months and any portion of a month immediately preceding the filing of the registration statement, other than a report that is required solely pursuant to Item 1.01, 1.02, 1.04, 2.03, 2.04, 2.05, 2.06, 4.02(a) or 5.02(e) of Form 8-K (§249.308 of this chapter). If the registrant has used (during the twelve calendar months and any portion of a month immediately preceding the filing of the registration statement) Rule 12b-25(b) (§240.12b-25(b) of this chapter) under the Exchange Act with respect to a report or a portion of a report, that report or portion thereof has actually been filed within the time period prescribed by that rule.

4. Neither the registrant nor any of its consolidated or unconsolidated subsidiaries have, since the end of the last fiscal year for which certified financial statements of the registrant and its consolidated subsidiaries were included in a report filed pursuant to Section 13(a) or 15(d) of the Exchange Act: (a) failed to pay any dividend or sinking fund installment on preferred stock; or (b) defaulted (i) on any installment or installments on indebtedness for borrowed money, or (ii) on any rental on one or more long term leases, which defaults in the aggregate are material to the financial position of the registrant and its consolidated and unconsolidated subsidiaries, taken as a whole.
5. A foreign issuer, other than a foreign government, which satisfies all of the above provisions of these registrant eligibility requirements except the provisions in I. A. 1. relating to organization and principal business shall be deemed to have met these registrant eligibility requirements provided that such a foreign issuer files the same reports with the Commission under Section 13(a) or 15(d) of the Exchange Act as a domestic registrant pursuant to I. A. 3. above.

6. If the registrant is a successor registrant, it shall be deemed to have met conditions 1., 2., 3., and 5., above if: (a) its predecessor and it, taken together, do so, provided that the succession was primarily for the purpose of changing the state of incorporation of the predecessor or forming a holding company and that the assets and liabilities of the successor at the time of succession were substantially the same as those of the predecessor; or (b) if all predecessors met the conditions at the time of succession and the registrant has continued to do so since the succession.

7. Electronic filings. In addition to satisfying the foregoing conditions, a registrant subject to the electronic filing requirements of Rule 101 of Regulation S-T (§232.101 of this chapter) shall have:

   (a) Filed with the Commission all required electronic filings, including electronic copies of documents submitted in paper pursuant to a hardship exemption as provided by Rule 201 or Rule 202(d) of Regulation S-T (§232.201 or §232.202(d) of this chapter); and

   (b) Submitted electronically to the Commission all Interactive Data Files required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the twelve calendar months and any portion of a month immediately preceding the filing of the registration statement on this Form (or for such shorter period of time that the registrant was required to submit such files).

B. Transaction Requirements. Security offerings meeting any of the following conditions and made by a registrant meeting the Registrant Requirements specified in I.A. above may be registered on this Form:

1. *Primary Offerings by Certain Registrants.* Securities to be offered for cash by or on behalf of a registrant, or outstanding securities to be offered for cash for the account of any person other than the registrant, including securities acquired by standby underwriters in connection with the call or redemption by the registrant of warrants or a class of convertible securities; *provided* that the aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant is $75 million or more.

   Instruction. For the purposes of this Form, "common equity" is as defined in Securities Act Rule 405 (§230.405 of this chapter). The aggregate market value of the registrant's outstanding voting and non-voting common equity shall be computed by use of the price at which the common equity was last sold, or the average of the bid and asked prices of such common equity, in the principal market for such common equity as of a date within 60 days prior to the date of filing. See the definition of "affiliate" in Securities Act Rule 405., as of a date within 60 days prior to the date of filing. See the definition of "affiliate" in Securities Act Rule 405 (§230.405 of this chapter).

2. *Primary Offerings of Non-Convertible Securities Other than Common Equity.* Non-convertible securities, other than common equity, to be offered for cash by or on behalf of a registrant, provided the registrant:

   (i) has issued (as of a date within 60 days prior to the filing of the registration statement) at least $1 billion in non-

convertible securities, other than common equity, in primary offerings for cash, not exchange, registered under the Securities Act, over the prior three years; or

(ii) has outstanding (as of a date within 60 days prior to the filing of the registration statement) at least $750 million of non-convertible securities, other than common equity, issued in primary offerings for cash, not exchange, registered under the Securities Act; or

(iii) is a wholly-owned subsidiary of a well-known seasoned issuer (as defined in 17 CFR 230.405); or

(iv) is a majority-owned operating partnership of a real estate investment trust that qualifies as a well-known seasoned issuer (as defined in 17 CFR 230.405).

Instruction. For purposes of Instruction I.B.2(i) above, an insurance company, as defined in Section 2(a)(13) of the Securities Act, when using this Form to register offerings of securities subject to regulation under the insurance laws of any State or Territory of the United States or the District of Columbia ("insurance contracts"), may include purchase payments or premium payments for insurance contracts, including purchase payments or premium payments for variable insurance contracts (not including purchase payments or premium payments initially allocated to investment options that are not registered under the Securities Act), issued in offerings registered under the Securities Act over the prior three years. For purposes of Instruction I.B.2(ii) above, an insurance company, as defined in Section 2(a)(13) of the Securities Act, when using this Form to register offerings of insurance contracts, may include the contract value, as of the measurement date, of any outstanding insurance contracts, including variable insurance contracts (not including the value allocated as of the measurement date to investment options that are not registered under the Securities Act), issued in offerings registered under the Securities Act.

3. *Transactions Involving Secondary Offerings.* Outstanding securities to be offered for the account of any person other than the issuer, including securities acquired by standby underwriters in connection with the call or redemption by the issuer of warrants or a class of convertible securities, if securities of the same class are listed and registered on a national securities exchange or are quoted on the automated quotation system of a national securities association. (In addition, attention is directed to General Instruction C to Form S-8 (§239.16b) for the registration of employee benefit plan securities for resale.)

4. *Rights Offerings, Dividend or Interest Reinvestment Plans, and Conversions or Warrants and Options.*

   (a) Securities to be offered (1) upon the exercise of outstanding rights granted by the issuer of the securities to be offered, if such rights are granted on a pro rata basis to all existing security holders of the class of securities to which the rights attach, (2) under a dividend or interest reinvestment plan, or (3) upon the conversion of outstanding convertible securities or the exercise of outstanding warrants or options issued by the issuer of the securities to be offered, or by an affiliate of such issuer.

   (b) However, Form S-3 is available for registering these securities only if the issuer has sent, within the twelve calendar months immediately before the registration statement is filed, material containing the information required by Rule 14a-3(b) (§240.14a-3(b) of this chapter) under the Exchange Act to:

      1. all record holders of the rights,

      2. all participants in the plans, or

      3. all record holders of the convertible securities, warrants or options, respectively.

   (c) The issuer also must have provided, within the twelve calendar months immediately before the Form S-3 registration statement is filed, the information required by Items 401, 402, 403 and 407(c)(3), (d)(4), (d)(5) and (e)(4) of Regulation S-K (§229.401 - §229.403 and §229.407(c)(3),(d)(4), (d)(5) and (e)(4) of this chapter) to:

      (1) holders of rights exercisable for common stock,

      (2) holders of securities convertible into common stock, and

(3) participants in plans that may invest in common stock, securities convertible into common stock, or warrants or options exercisable for common stock, respectively.

5. *This Form shall not be used to register offerings of asset-backed securities, as defined in 17 CFR 229.1101(c).*

6. *Limited Primary Offerings by Certain Other Registrants.* Securities to be offered for cash by or on behalf of a registrant; provided that:

(a) the aggregate market value of securities sold by or on behalf of the registrant pursuant to this Instruction I.B.6. during the period of 12 calendar months immediately prior to, and including, the sale is no more than one-third of the aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant;

(b) the registrant is not a shell company (as defined in §230.405 of this chapter) and has not been a shell company for at least 12 calendar months previously and if it has been a shell company at any time previ ously, has filed current Form 10 information with the Commission at least 12 calendar months previously reflecting its status as an entity that is not a shell company; and

(c) the registrant has at least one class of common equity securities listed and registered on a national securities exchange.

Instructions.

1. "Common equity" is as defined in Securities Act Rule 405 (§230.405 of this chapter). For purposes of computing the aggregate market value of the registrant's outstanding voting and non-voting common equity pursuant to General Instruction I.B.6., registrants shall use the price at which the common equity was last sold, or the average of the bid and asked prices of such common equity, in the principal market for such common equity as of a date within 60 days prior to the date of sale. See the definition of "affiliate" in Securities Act Rule 405 (§230.405 of this chapter).

2. For purposes of computing the aggregate market value of all securities sold by or on behalf of the registrant in offerings pursuant to General Instruction I.B.6. during any period of 12 calendar months, registrants shall aggregate the gross proceeds of such sales; provided, that, in the case of derivative securities convertible into or exercisable for shares of the registrant's common equity, registrants shall calculate the aggregate market value of any underlying equity shares in lieu of the market value of the derivative securities. The aggregate market value of the underlying equity shall be calculated by multiplying the maximum number of common equity shares into which the derivative securities are convertible or for which they are exercisable as of a date within 60 days prior to the date of sale, by the same per share market price of the registrant's equity used for purposes of calculating the aggregate market value of the registrant's outstanding voting and non-voting common equity pursuant to Instruction 1 to General Instruction I.B.6. If the derivative securities have been converted or exercised, the aggregate market value of the underlying equity shall be calculated by multiplying the actual number of shares into which the securities were converted or received upon exercise, by the market price of such shares on the date of conversion or exercise.

3. If the aggregate market value of the registrant's outstanding voting and nonvoting common equity computed pursuant to General Instruction I.B.6. equals or exceeds $75 million subsequent to the effective date of this registration statement, then the one third limitation on sales specified in General Instruction I.B.6(a) shall not apply to additional sales made pursuant to this registration statement on or subsequent to such date and instead the registration statement shall be considered filed pursuant to General Instruction I.B.1.

4. The term "Form 10 information" means the information that is required by Form 10 or Form 20-F (§249.210 or §249.220f of this chapter), as applicable to the registrant, to register under the Securities Exchange Act of 1934 each class of securities being registered using this form. A registrant may provide the Form 10 information in another Commission filing with respect to the registrant.

5. The date used in Instruction 2 to General Instruction I.B.6. shall be the same date used in Instruction 1 to General Instruction I.B.6.

6. A registrant's eligibility to register a primary offering on Form S-3 pursuant to General Instruction I.B.6. does not mean that the registrant meets the requirements of Form S-3 for purposes of any other rule or regulation of the Commission apart from Rule 415(a)(1)(x) (§230.415(a)(1)(x) of this chapter).

7. Registrants must set forth on the outside front cover of the prospectus the calculation of the aggregate market value of the registrant's outstanding voting and nonvoting common equity pursuant to General Instruction I.B.6. and the amount of all securities offered pursuant to General Instruction I.B.6. during the prior 12 calendar month period that ends on, and includes, the date of the prospectus.

8. For purposes of General Instruction I.B.6(c), a "national securities exchange" shall mean an exchange registered as such under Section 6(a) of the Securities Exchange Act of 1934.

C. Majority-owned Subsidiaries. If a registrant is a majority-owned subsidiary, security offerings may be registered on this Form if:

1. the registrant-subsidiary itself meets the Registrant Requirements and the applicable Transaction Requirement;
2. the parent of the registrant-subsidiary meets the Registrant Requirements and the conditions of Transaction Requirements B.2. (Primary Offerings of Non-Convertible Securities Other than Common Equity) are met;
3. the parent of the registrant-subsidiary meets the Registrant Requirements and the applicable Transaction Requirement, and provides a full and unconditional guarantee, as defined in Rule 3-10 of Regulation S-X (§210.3-10 of this chapter), of the payment obligations on the securities being registered, and the securities being registered are non-convertible securities, other than common equity;
4. the parent of the registrant-subsidiary meets the Registrant Requirements and the applicable Transaction Requirement, and the securities of the registrant subsidiary being registered are full and unconditional guarantees, as defined in Rule 3-10 of Regulation S-X, of the payment obligations on the parent's non-convertible securities, other than common equity, being registered; or
5. the parent of the registrant-subsidiary meets the Registrant Requirements and the applicable Transaction Requirement, and the securities of the registrant subsidiary being registered are guarantees of the payment obligations on the non-convertible securities, other than common equity, being registered by another majority-owned subsidiary of the parent where the parent provides a full and unconditional guarantee, as defined in Rule 3-10 of Regulation S-X, of such non-convertible securities.

Note to General Instruction I.C.: With regard to paragraphs I.C.3, I.C.4, and I.C.5 above, the guarantor is the issuer of a separate security consisting of the guarantee, which must be concurrently registered, but may be registered on the same registration statement as are the non-convertible guaranteed securities.

D. Automatic shelf offerings by well-known seasoned issuers. Any registrant that is a well-known seasoned issuer as defined in Rule 405 (§230.405 of this chapter) at the most recent eligibility determination date specified in paragraph (2) of that definition may use this Form for registration under the Securities Act of securities offerings, other than pursuant to Rule 415(a)(1)(vii) or (viii) (§230.415(a)(1)(vii) or (viii) of this chapter), as follows:

(1) The securities to be offered are:

(a) Any securities to be offered pursuant to Rule 415, Rule 430A, or Rule 430B (§230.415, §230.430A, or §230.430B of this chapter) by:

(i) A registrant that is a well-known seasoned issuer by reason of paragraph (1)(i)(A) of the definition in Rule 405; or

(ii) A registrant that is a well-known seasoned issuer only by reason of paragraph (1)(i)(B) of the definition in Rule 405 if the registrant also is eligible to register a primary offering of its securities pursuant to Transac tion Requirement I.B.1 of this Form;

(b) Non-convertible securities, other than common equity, to be offered pursuant to Rule 415, Rule 430A, or Rule 430B by a registrant that is a well-known seasoned issuer only by reason of paragraph (1)(i)(B) of the definition in Rule 405 and does not fall within Transaction Requirement I.B.1 of this Form;

(c) Securities of majority-owned subsidiaries of the parent registrant to be offered pursuant to Rule 415, Rule 430A, or Rule 430B if the parent registrant is a well known seasoned issuer and the securities of the majority-owned subsidiary being registered meet the following requirements:

(i) Securities of a majority-owned subsidiary that is a well-known seasoned issuer at the time it becomes a registrant, other than by virtue of paragraph (1)(ii) of the definition of well-known seasoned issuer in Rule 405;

(ii) Securities of a majority-owned subsidiary that are non-convertible securities, other than common equity, and the parent registration provides a full and unconditional guarantee, as defined in Rule 3-10 of Regulation S-X, of the payment obligations on the non-convertible securities;

(iii) Securities of a majority-owned subsidiary that are a guarantee of:

(A) Non-convertible securities, other than common equity, of the parent registrant being

registered;

(B) Non-convertible securities, other than common equity, of another majority-owned subsidiary being registered and the parent has provided a full and unconditional guarantee, as defined in Rule 3-10 of Regulation S-X, of the payment obligations on such non-convertible securities.; or

(iv)) Securities of a majority-owned subsidiary that meet the conditions of Transaction Requirement I.B.2. of this Form (Primary Offerings of Non-Convertible Securities Other than Common Equity).

(d) Securities to be offered for the account of any person other than the issuer ("selling security holders"), provided that the registration statement and the prospectus are not required to separately identify the selling security holders or the securities to be sold by such persons until the filing of a prospectus, prospectus supplement, post-effective amendment to the registration statement, or periodic or current report under the Exchange Act that is incorporated by reference into the registration statement and prospectus, identifying the selling security holders and the amount of securities to be sold by each of them and, if included in a periodic or current report, a prospectus or prospectus supplement is filed, as required by Rule 430B, pursuant to Rule 424(b)(7)(§230.424(b)(7) of this chapter);

(2) The registrant pays the registration fee pursuant to Rule 456(b) and Rule 457(r) (§230.456(b) and §230.457(r) of this chapter) or in accordance with Rule 456(a)(§230.456(a) of this chapter);

(3) If the registrant is a majority-owned subsidiary, it is required to file and has filed reports pursuant to section 13 or section 15(d) of the Exchange Act and satisfies the requirements of this Form with regard to incorporation by reference or information about the majority-owned subsidiary is included in the registration statement (or a post-effective amendment to the registration statement);

(4) The registrant may register additional securities or classes of its or its majority-owned subsidiaries' securities on a post-effective amendment pursuant to Rule 413(b) (§230.413(b) of this chapter); and

(5) An automatic shelf registration statement and post-effective amendment will become effective immediately pursuant to Rule 462(e) and (f) (§230.462(e) and (f) of this chapter) upon filing. All filings made on or in connection with automatic shelf registration statements on this Form become public upon filing with the Commission.

II. Application of General Rules and Regulations

A. Attention is directed to the General Rules and Regulations under the Securities Act, particularly Regulation C thereunder (17 CFR 230.400 to 230.494). That Regulation contains general requirements regarding the preparation and filing of registration statements.

B. Attention is directed to Regulation S-K (17 CFR Part 229) for the requirements applicable to the content of the non-financial statement portions of registration statements under the Securities Act. Where this Form directs the registrant to furnish information required by Regulation S-K and the item of Regulation S-K so provides, information need only be furnished to the extent appropriate. Notwithstanding Items 501 and 502 of Regulation S-K, no table of contents is required to be included in the prospectus or registration statement prepared on this Form. In addition to the information expressly required to be included in a registration statement on this Form S-3, registrants also may provide such other information as they deem appropriate.

C. A smaller reporting company, defined in Rule 405 (17 CFR 230.405), that is eligible to use Form S-3 shall use the disclosure items in Regulation S-K (17 CFR 229.10 <u>et seq</u>.) with specific attention to the scaled disclosure provided for smaller reporting companies, if any. Smaller reporting companies may provide the financial information called for by Article 8 of Regulation S-X in lieu of the financial information called for by Item 11 in this form.

D. Non-Automatic Shelf Registration Statements. Where two or more classes of securities being registered on this Form pursuant to General Instruction I.B.1. or I.B.2. are to be offered pursuant to Rule 415(a)(1)(x) (§230.415(a)(1)(x) of this chapter), and where this Form is not an automatic shelf registration statement, Rule 457(o) permits the registration fee to be calculated on the basis of the maximum offering price of all the securities listed in the Fee Table. In this event, while the Fee Table would list each of the classes of securities being registered and the aggregate proceeds to be raised, the Fee Table need not specify by each class information as to the amount to be registered, proposed maximum offering price per unit, and proposed maximum aggregate offering price.

E. Automatic Shelf Registration Statements. Where securities are being registered on this Form pursuant to General Instruction I.D., Rule 456(b) permits, but does not require, the registrant to pay the registration fee on a pay-as-you-go basis and Rule 457(r) permits, but does not require, the registration fee to be calculated on the basis of the aggregate offering price of the securities to be offered in an offering or offerings off the registration statement. If a registrant elects to pay all or a portion of the registration fee on a deferred basis, the Fee Table in the initial filing must identify the classes of securities being registered and provide that the registrant elects to rely on Rule 456(b) and Rule 457(r), but the Fee Table does not need to specify any other information. When the registrant amends the Fee Table in accordance with Rule 456(b)(1)(ii), the amended Fee Table must include either the dollar amount of securities being registered if paid in advance of or in connection with an offering or offerings or the aggregate offering price for all classes of securities referenced in the offerings and the applicable registration fee.

F. Information in Automatic and Non-Automatic Shelf Registration Statements. Where securities are being registered on this Form pursuant to General Instruction I.B.1, I.B.2, I.C., or I.D., information is only required to be furnished as of the date of initial effectiveness of the registration statement to the extent required by Rule 430A or Rule 430B. Required information about a specific transaction must be included in the prospectus in the registration statement by means of a prospectus that is deemed to be part of and included in the registration statement pursuant to Rule 430A or Rule 430B, a post-effective amendment to the registration statement, or a periodic or current report under the Exchange Act incorporated by reference into the registration statement and the prospectus and identified in a prospectus filed, as required by Rule 430B, pursuant to Rule 424(b) (§230.424(b) of this chapter).

G. Selling Security Holder Offerings. Where a registrant eligible to register primary offerings on this Form pursuant to General Instruction I.B.1 registers securities offerings on this Form pursuant to General Instruction I.B.1 or I.B.3 for the account of persons other than the registrant, if the offering of the securities, or securities convertible into such securities, that are being registered on behalf of the selling security holders was completed and the securities, or securities convertible into such securities, were issued and outstanding prior to the original date of filing the registration statement covering the resale of the securities, the registrant may, as permitted by Rule 430B(b), in lieu of identifying selling security holders prior to effectiveness of the resale registration statement, refer to unnamed selling security holders in a generic manner by identifying the initial transaction in which the securities were sold. Following effectiveness, the registrant must include in a prospectus filed pursuant to Rule 424(b)(7), a post-effective amendment to the registration statement, or an Exchange Act report incorporated by reference into the prospectus that is part of the registration statement (which Exchange Act report is identified in a prospectus filed, as required by Rule 430B, pursuant to Rule 424(b)(7)) the names of previously unidentified selling security holders and amounts of securities that they intend to sell. If this Form is being filed pursuant to General Instruction I.D. by a well-known seasoned issuer to register securities being offered for the account of persons other than the issuer, the registration statement and the prospectus included in the registration statement do not need to designate the securities that will be offered for the account of such persons, identify them, or identify the initial transaction in which the securities, or securities convertible into such securities, were sold until the registrant files a post-effective amendment to the registration statement, a prospectus pursuant to Rule 424(b), or an Exchange Act report (and prospectus filed, as required by Rule 430B, pursuant to Rule 424(b)(7)) containing information for the offering on behalf of such persons.

III. Dividend or Interest Reinvestment Plans: Filing and Effectiveness of Registration Statement; Requests for Confidential Treatment

A registration statement on this Form S-3 relating solely to securities offered pursuant to dividend or interest reinvestment plans will become effective automatically (Rule 462, §230.462 of this chapter) upon filing (Rule 456, §230.456 of this chapter). Post-effective amendments to such a registration statement on this Form shall become effective upon filing (Rule 464, §230.464 of this chapter). All filings made on or in connection with this Form become public upon filing with the Commission. As a result, requests for confidential treatment made under Rule 406 (§230.406 of this chapter) must be processed with the Commission staff prior to the filing of such a registration statement. The number of copies of the registration statement and of each amendment required by Rules 402 and 472 (§§230.402 and 230.472 of this chapter) shall be filed with the Commission: *provided, however*, That the number of additional copies referred to in Rule 402(b) may be reduced from ten to three and the number of additional copies referred to in Rule 472(a) may be reduced from eight to three, one of which shall be marked clearly and precisely to indicate changes.

IV. Registration of Additional Securities and Additional Classes of Securities

A. Registration of Additional Securities Pursuant to Rule 462(b). With respect to the registration of additional securities for an offering pursuant to Rule 462(b) under the Securities Act, the registrant may file a registration statement consisting only of the following: the facing page; a statement that the contents of the earlier registration statement, identified by file number, are incorporated by reference; required opinions and consents; the signature page; and any price-related information omitted from the earlier registration statement in reliance on Rule 430A that the registrant chooses to include in the new registration statement. The information contained in such a Rule 462(b) registration statement shall be deemed to be a part of the earlier registration statement as of the date of effectiveness

of the Rule 462(b) registration statement. Any opinion or consent required in the Rule 462(b) registration statement may be incorporated by reference from the earlier registration statement with respect to the offering, if: (i) such opinion or consent expressly provides for such incorporation; and (ii) such opinion relates to the securities registered pursuant to Rule 462(b). *See* Rule 439(b) under the Securities Act [17 CFR 230.439(b)].

B. Registration of Additional Securities or Classes of Securities or Additional Registrants After Effectiveness. A well-known seasoned issuer relying on General Instruction I.D. of this Form may register additional securities or classes of securities, pursuant to Rule 413(b) by filing a post-effective amendment to the effective registration statement. The well-known seasoned issuer may add majority-owned subsidiaries as additional registrants whose securities are eligible to be sold as part of the automatic shelf registration statement by filing a post-effective amendment identifying the additional registrants, and the registrant and the additional registrants and other persons required to sign the registration statement must sign the post-effective amendment. The post-effective amendment must consist of the facing page; any disclosure required by this Form that is necessary to update the registration statement to reflect the additional securities, additional classes of securities, or additional registrants; any required opinions and consents; and the signature page. Required information, consents, or opinions may be included in the prospectus and the registration statement through a post-effective amendment or may be provided through a document incorporated or deemed incorporated by reference into the registration statement and the prospectus that is part of the registration statement, or, as to the required information only, contained in a prospectus filed pursuant to Rule 424(b) that is deemed part of and included in the registration statement and prospectus that is part of the registration statement.

PART I
INFORMATION REQUIRED IN PROSPECTUS

Item 1. Forepart of the Registration Statement and Outside Front Cover Pages of Prospectus.

Set forth in the forepart of the registration statement and on the outside front cover page of the prospectus the information required by Item 501 of Regulation S-K (§229.501 of this chapter).

Item 2. Inside Front and Outside Back Cover Pages of Prospectus.

Set forth on the inside front cover page of the prospectus or, where permitted, on the outside back cover page, the information required by Item 502 of Regulation S-K (§229.502 of this chapter).

Item 3. Summary Information, Risk Factors and Ratio of Earnings to Fixed Charges.

Furnish the information required by Items 105 and 503 of Regulation S-K (§ 229.105 and § 229.503 of this chapter).

Item 4. Use of Proceeds.

Furnish the information required by Item 504 of Regulation S-K (§229.504 of this chapter).

Item 5. Determination of Offering Price.

Furnish the information required by Item 505 of Regulation S-K (§229.505 of this chapter).

Item 6. Dilution.

Furnish the information required by Item 506 of Regulation S-K (§229.506 of this chapter).

Item 7. Selling Security Holders.

Furnish the information required by Item 507 of Regulation S-K (§229.507 of this chapter).

Item 8. Plan of Distribution.

Furnish the information required by Item 508 of Regulation S-K (§229.508 of this chapter).

Item 9. Description of Securities to be Registered.

Furnish the information required by Item 202 of Regulation S-K (§229.202 of this chapter), unless capital stock is to be registered and securities of the same class are registered pursuant to Section 12 of the Exchange Act.

Item 10. Interests of Named Experts and Counsel.

Furnish the information required by Item 509 of Regulation S-K (§229.509 of this chapter).

Item 11. Material Changes.

(a) Describe any and all material changes in the registrant's affairs which have occurred since the end of the latest fiscal year for which certified financial statements were included in the latest annual report to security holders and which have not been described in a report on Form 10-Q (§249.308a of this chapter) or Form 8-K (§249.308 of this chapter) filed under the Exchange Act.

(b) Include in the prospectus, if not incorporated by reference therein from the reports filed under the Exchange Act specified in Item 12(a), a proxy or information statement filed pursuant to Section 14 of the Exchange Act, a prospectus previously filed pursuant to Rule 424(b) or (c) under the Securities Act (§230.424(b) or (c) of this chapter) or, where no prospectus is required to be filed pursuant to Rule 424(b), the prospectus included in the registration statement at effectiveness, or a Form 8-K filed during either of the two preceding years: (i) information required by Rule 3-05 and Article 11 of Regulation S-X (17 CFR Part 210); (ii) restated financial statements prepared in accordance with Regulation S-X if there has been a change in accounting principles or a correction in an error where such change or correction requires a material retroactive restatement of financial statements; (iii) restated financial statements prepared in accordance with Regulation S-X where a combination of entities under common control has been consummated subsequent to the most recent fiscal year and the transferred businesses, considered in the aggregate, are significant pursuant to Rule 11-01(b), or (iv) any financial information required because of a material disposition of assets outside the normal course of business.

Item 12. Incorporation of Certain Information by Reference.

(a) The documents listed in (1) and (2) below shall be specifically incorporated by reference into the prospectus by means of a statement to that effect in the prospectus listing all such documents:

(1) the registrant's latest annual report on Form 10-K (17 CFR 249.310) filed pursuant to Section 13(a) or 15(d) of the Exchange Act that contains financial statements for the registrant's latest fiscal year for which a Form 10-K was required to be filed; and

(2) all other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the annual report referred to in (1) above; and

(3) if capital stock is to be registered and securities of the same class are registered under Section 12 of the Exchange Act, the description of such class of securities which is contained in a registration statement filed under the Exchange Act, including any amendment or reports filed for the purpose of updating such description.

(b) The prospectus shall also state that all documents subsequently filed by the registrant pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, prior to the termination of the offering shall be deemed to be incorporated by reference into the prospectus.
Instruction. Attention is directed to Rule 439 (§230.439 of this chapter) regarding consent to use of material incorporated by reference.

(c) (1) You must state

(i) that you will provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in the prospectus but not delivered with the prospectus;

(ii) that you will provide this information upon written or oral request;

(iii) that you will provide this information at no cost to the requester; and

(iv) the name, address, and telephone number to which the request for this information must be made.

Note to Item 12(c)(1). If you send any of the information that is incorporated by reference in the prospectus to security holders, you also must send any exhibits that are specifically incorporated by reference in that information.

(2) You must

(i) identify the reports and other information that you file with the SEC; and

(ii) State that the SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC and state the address of that site (http://www.sec.gov). Disclose your Internet address, if available.

(d) Any information required in the prospectus in response to Item 3 through Item 11 of this Form may be included in the prospectus through documents filed pursuant to Section 13(a), 14, or 15(d) of the Exchange Act that are incorporated or deemed incorporated by reference into the prospectus that is part of the registration statement. Notwithstanding the foregoing, in the financial statements, incorporating by reference or cross-referencing to information outside of the financial statements is not permitted unless otherwise specifically permitted or required by the Commission's rules or by U.S. Generally Accepted Accounting Principles or International Financial Reporting Standards as issued by the International Accounting Standards Board, whichever is applicable.

Item 13. Disclosure of Commission Position on Indemnification for Securities Act Liabilities.

Furnish the information required by Item 510 of Regulation S-K (§229.510 of this chapter).

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

Furnish the information required by Item 511 of Regulation S-K (§229.511 of this chapter).

Item 15. Indemnification of Directors and Officers.

Furnish the information required by Item 702 of Regulation S-K (§229.702 of this chapter).

Item 16. Exhibits.

Subject to the rules regarding incorporation by reference, furnish the exhibits required by Item 601 of Regulation S-K (§229.601 of this chapter).

Item 17. Undertakings.

Furnish the undertakings required by Item 512 of Regulation S-K (§229.512 of this chapter).

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of ______________________________, State of ______________________ _____, on ____________________________, 20____.

____
(Registrant)

By ______________________________
(Signature and Title)

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

____
(Signature)

____
(Title)

____
(Date)

Instructions.

1. The registration statement shall be signed by the registrant, its principal executive officer or officers, its principal financial officer, its controller or principal accounting officer and by at least a majority of the board of directors or persons performing similar functions. If the registrant is a foreign person, the registration statement shall also be signed by its authorized representative in the United States. Where the registrant is a limited partnership, the registration statement shall be signed by a majority of the board of directors of any corporate general partner signing the registration statement.

2. The name of each person who signs the registration statement shall be typed or printed beneath his signature. Any person who occupies more than one of the specified positions shall indicate each capacity in which he signs the registration statement. Attention is directed to Rule 402 concerning manual signatures and to Item 601 of Regulation S-K concerning signatures pursuant to powers of attorney.

EXHIBIT
73
6/4/19 AG

SECURITIES AND EXCHANGE COMMISSION

17 CFR PARTS 230 AND 239

[RELEASE NO. 33-8878; FILE NO. S7-10-07]

RIN 3235-AJ89

REVISIONS TO THE ELIGIBILITY REQUIREMENTS FOR PRIMARY SECURITIES OFFERINGS ON FORMS S-3 AND F-3

AGENCY: Securities and Exchange Commission.

ACTION: Final rule.

SUMMARY: We are adopting amendments to the eligibility requirements of Form S-3 and Form F-3 to allow certain domestic and foreign private issuers to conduct primary securities offerings on these forms without regard to the size of their public float or the rating of debt they are offering, so long as they satisfy the other eligibility conditions of the respective form, have a class of common equity securities listed and registered on a national securities exchange, and the issuers do not sell more than the equivalent of one-third of their public float in primary offerings over any period of 12 calendar months. The amendments are intended to allow more companies to benefit from the greater flexibility and efficiency in accessing the public securities markets afforded by Form S-3 and Form F-3 without compromising investor protection. The expanded form eligibility does not extend to shell companies, however, which are prohibited from using the new provisions until 12 calendar months after they cease being shell companies. In addition, we are adopting an amendment to the rules and regulations promulgated under the Securities Act to clarify that violations of the one-third restriction will also violate the requirements as to proper registration form, even though the registration statement has been declared effective previously.

EFFECTIVE DATE: January 28, 2008.

FOR FURTHER INFORMATION CONTACT: Raymond A. Be, at (202) 551-3430, or the Office of Chief Counsel, at (202) 551-3500, in the Division of Corporation Finance, U.S. Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-3010.

SUPPLEMENTARY INFORMATION: We are amending Form S-3,[1] Form F-3[2] and Rule 401(g)[3] under the Securities Act of 1933.[4]

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1 17 CFR 239.13.

2 17 CFR 239.33.

3 17 CFR 230.401(g).

4 15 U.S.C. 77a et seq.

I. Discussion

A. Background

1. Proposing Release and Public Comment Letters

On May 23, 2007, we proposed revisions to the eligibility requirements of Form S-3 and Form F-3 to allow domestic and foreign private issuers, respectively, to conduct primary securities offerings on these forms without regard to the size of their public float or the rating of debt they are offering, so long as they satisfy the other eligibility conditions of the applicable form and do not sell securities valued in excess of 20% of their public float in primary offerings pursuant to the new instructions on these forms over any period of 12 calendar months.[5]

In response to our request for comment on the Proposing Release, we received comment letters from a variety of groups and constituencies, most of whom expressed their general support for the proposed form amendments and the objectives that we articulated in the Proposing Release. Notwithstanding their general support, however, several commenters thought that some modifications to the proposal were advisable, either to improve the usefulness of the form amendments to smaller public companies

seeking capital,[6] or to ensure that the rule changes are consistent with investor protection.[7] After considering each of the comments, we are adopting amendments to Form S-3 and Form F-3 substantially in the form proposed, but with certain modifications as discussed more fully in this release.

These amendments are intended to allow a larger number of public companies to benefit from the greater flexibility and efficiency in accessing the public securities markets afforded by Form S-3 and Form F-3 in a manner that is consistent with investor protection. Accordingly, we are placing certain restrictions on the class of issuers who will be eligible under the new rules and are adopting a ceiling on the amount of securities that eligible issuers may offer pursuant to these rules. In creating new opportunities to facilitate capital formation consistent with the protection of investors, we believe that a careful and modest expansion of Form S-3 and Form F-3 eligibility is warranted at this time. However, as we indicated in the Proposing Release, we may revisit the appropriateness of the form restrictions at a later time if our experience with this revised requirement suggests issuer eligibility for primary offerings on Form S-3 and Form F-3 should be further revised.[8]

2. Form S-3

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5 Revisions to the Eligibility Requirements for Primary Securities Offerings on Forms S-3 and F-3, Release No. 33-8812 (June 20, 2007) [72 FR 35118] (the "Proposing Release").

6 See, for example, letters from the American Bar Association, Committees on Federal Regulation of Securities and State Regulation of Securities ("ABA"); Brinson Patrick Securities Corporation ("Brinson Patrick"); Feldman Weinstein and Smith LLP ("Feldman Weinstein"); Malizia Spidi & Fisch ("Malizia Spidi"); Morrison & Foerster LLP ("Morrison & Foerster"); Office of Advocacy, Small Business Administration ("SBA"); Roth Capital Partners, LLP ("Roth Capital"); Marshal Shichtman ("M. Shichtman"); and Williams Securities Law ("Williams Securities"). All comment letters are publicly available at http://www.sec.gov/comments/s7-10-07/s71007.shtml.

7 See letter from the Council of Institutional Investors ("CII").

8 Proposing Release, at 35124.

Form S-3 is the "short form" used by eligible domestic companies to register securities offerings under the Securities Act of 1933. The form also allows these companies to rely on their reports filed under the Securities Exchange Act of 1934[9] to satisfy the form's disclosure requirements. Prior to today's amendments, companies have been able to register primary offerings (that is, securities offered by or on behalf of the registrant for its own account) on Form S-3 only if their non-affiliate equity market capitalization, or "public float," was $75 million or more.[10] In contrast, transactions involving primary offerings of non-convertible investment grade securities, certain rights offerings, dividend reinvestment plans and conversions, and offerings by selling shareholders of securities registered on a national securities exchange do not require the company to have a minimum public float.[11]

Recently, the issue of Form S-3 eligibility for primary offerings was addressed by the Commission's Advisory Committee on Smaller Public Companies (the "Advisory Committee"), which the Commission chartered in 2005 to assess the current regulatory system for smaller companies under U.S. securities laws.[12] In its April 23, 2006 Final Report to the Commission, the Advisory Committee recommended that we allow all reporting companies with securities listed on a national securities exchange or Nasdaq,[13] or quoted on the Over-the-Counter Bulletin Board electronic quotation service, to be

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9 15 U.S.C. 78a et seq.

10 General Instruction I.B.1. of Form S-3. The history and use of Form S-3 are discussed in greater detail in the Proposing Release.

11 See General Instructions I.B.2. through I.B.4. of Form S-3.

12 More information about the Advisory Committee is available at http://www.sec.gov/info/smallbus/acspc.shtml.

13 There is no longer a distinction between Nasdaq and national securities exchanges. On January 13, 2006, the Commission approved Nasdaq's application to become a national securities exchange. The Nadsaq Stock Market commenced operations on August 1, 2006.

eligible to use Form S-3 if they have been reporting under the Exchange Act for at least one year and are current in their reporting at the time of filing.[14]

3. Reasons for New Form S-3 Amendments

The ability to conduct primary offerings on Form S-3 confers significant advantages on eligible companies.[15] Form S-3 permits the incorporation of required information by reference to a company's disclosure in its Exchange Act filings, including Exchange Act reports that were previously filed and those that will be filed in the future.[16]

Form S-3 eligibility for primary offerings also enables companies to conduct primary offerings "off the shelf" under Rule 415 of the Securities Act.[17] Rule 415 provides considerable flexibility in accessing the public securities markets from time to time in response to changes in the markets and other factors. The shelf eligibility resulting from Form S-3 eligibility and the ability to forward incorporate information on

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14 Recommendation IV.P.3. of the Final Report of the Advisory Committee on Smaller Public Companies (Apr. 23, 2006) (the "Final Report"), at 68-72. The Final Report is available at http://www.sec.gov/info/smallbus/acspc/acspc-finalreport.pdf. In addition to elimination of the public float requirement, Recommendation IV.P.3. also called for (1) elimination of General Instruction I.A.3.(b) to Form S-3 requiring that the issuer has timely filed all required reports in the last year and (2) extending Form S-3 eligibility for secondary transactions to issuers quoted on the Over-the-Counter Bulletin Board. The Proposing Release also included additional discussion of the Advisory Committee and its recommendations.

15 See generally, Shelf Registration, Release No. 33-6499 (Nov. 17, 1983) [48 FR 5289] (discussing the benefits of shelf registration).

16 Item 12 of Form S-3: "Incorporation of Certain Information by Reference."

17 Rule 415 [17 CFR 230.415] provides that:

> (a) Securities may be registered for an offering to be made on a continuous or delayed basis in the future, Provided, That:
>
> (1) the registration statement pertains only to:
>
> . . .
>
> (x) Securities registered (or qualified to be registered) on Form S-3 or Form F-3 which are to be offered and sold on an immediate, continuous or delayed basis by or on behalf of the registrant, a majority owned subsidiary of the registrant or a person of which the registrant is a majority-owned subsidiary.

Form S-3, therefore, allow companies to avoid additional delays and interruptions in the offering process and can reduce or even eliminate the costs associated with preparing and filing post-effective amendments to the registration statement.

By having more control over the timing of their offerings, these companies can take advantage of desirable market conditions, thus allowing them to raise capital on more favorable terms (such as pricing) or to obtain lower interest rates on debt. As a result, the ability to take securities off the shelf as needed gives issuers a significant financing alternative to other widely available methods, such as private placements with shares usually priced at discounted values based in part on their relative illiquidity.[18] Consequently, we believe that extending Form S-3 short-form registration to additional issuers should enhance their ability to access the public securities markets. Likewise, a significant proportion of commenters to the Proposing Release welcomed an expansion of Form S-3 eligibility, agreeing that such a measure would greatly enhance smaller public companies' access to capital in the securities markets, with far less burden and cost.[19]

Given the great advances in the electronic dissemination and accessibility of company disclosure transmitted over the Internet in the last several years,[20] we believe

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[18] See, for example, Susan Chaplinsky and David Haushalter, Financing Under Extreme Uncertainty: Contract Terms and Returns to Private Investments in Public Equity (May 2006), available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=907676 (discussing the typical contractual terms of PIPEs (Private Investments in Public Equities) financings, where the average purchase discount is between 18.5% to 19.7%, depending on the types of contractual rights embedded in the securities).

[19] See, for example, letters from Feldman Weinstein; Malizia Spidi; and M. Shichtman.

[20] See, for example, Internet Availability of Proxy Materials, Release No. 34-52926 (Dec. 8, 2005) [70 FR 74597] and the Final Report of the Advisory Committee, at 69:

> The Commission has recently taken several steps acknowledging the widespread accessibility over the Internet of documents filed with the Commission. In its recent release concerning Internet delivery of proxy materials, the Commission notes that recent data indicates that up to 75% of Americans have access to the Internet in their homes, and that this percentage is increasing steadily among all age groups. As a result we believe that investor protection would not be

that moderately expanding the class of transactions that are permitted on Form S-3 for primary securities offerings is warranted once again. In contrast to 1992, when the Commission last adjusted the issuer eligibility requirements for Form S-3,[21] most public filings under the Securities Act and the Exchange Act, and all Forms S-3, are now filed on the Commission's Electronic Data Gathering, Analysis, and Retrieval system ("EDGAR"). The pervasiveness of the Internet in daily life and the advent of EDGAR as a central repository of company filings have combined to allow widespread, direct, and contemporaneous accessibility to company disclosure at little or no cost to those interested in obtaining the information. For this reason, we think it is appropriate to once again expand the class of companies who may register primary offerings on Form S-3 in a limited manner.

4. Limited Expansion of Form Eligibility

We are not prepared at this time to abandon our longstanding prerequisite contained in the instructions to Form S-3 and allow unlimited use of this form for primary offerings by companies who do not have at least $75 million in public float. Although the Advisory Committee recommended the qualified elimination of this requirement[22] and some commenters supported removing the concept of float altogether as a criterion of eligibility,[23] we believe that retaining some capitalization restrictions on

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materially diminished if all reporting companies on a national securities exchange, NASDAQ or the Over-the-Counter Bulletin Board were permitted to utilize Form S-3 and the associated benefits of incorporation by reference.

21 Simplification of Registration Procedures for Primary Securities Offerings, Release No. 33-6964 (Oct. 22, 1992) [57 FR 48970].

22 The Advisory Committee's recommendation to expand Form S-3 eligibility encompassed only companies whose securities are listed on a national securities exchange or Nasdaq (which, at the time, was not yet a national securities exchange), or quoted on the Over-the Counter Bulletin Board. Refer to Recommendation IV.P.3. of the Final Report.

23 See letters from the ABA; Morrison & Foerster; and Roth Capital.

Form S-3 eligibility is still advisable. We are persuaded that the technological advances that have revolutionized communications between companies and the market should allow us to ease the Form S-3 eligibility standards without undermining investor protection or the integrity of the markets. However, as explained more fully below, we believe this warrants only the limited expansion of certain offerings on Form S-3, not the wholesale elimination of public float as an important criterion of form eligibility. The Commission's system of integrated disclosure has, since its inception, been premised on the idea that a company's disclosure in its registration statement can be streamlined to the extent that the market has already taken that information into account.[24] Public float has for many years been used as an approximate measure of a stock's market following and, consequently, the degree of efficiency with which the market absorbs information and reflects it in the price of a security.[25] While current technology provides investors with access to information about publicly reporting companies at an unprecedented level of ease and speed, it does not guarantee that the market has fully absorbed and synthesized

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[24] See Release No. 33-6499, at 5:

> Forms S-3 and F-3 recognize the applicability of the efficient market theory to those companies which provide a steady stream of high quality corporate information to the marketplace and whose corporate information is broadly disseminated. Information about these companies is constantly digested and synthesized by financial analysts, who act as essential conduits in the continuous flow of information to investors, and is broadly disseminated on a timely basis by the financial press and other participants in the marketplace. Accordingly, at the time S-3/F-3 registrants determine to make an offering of securities, a large amount of information already has been disseminated to and digested by the marketplace.

See also Harold S. Bloomenthal and Samuel Wolff, Securities and Federal Corporate Law, § 9:30, available through Westlaw at 3B Sec. & Fed. Corp. Law § 9:30 (2d. ed.) ("Form S-3 epitomizes the efficient market concept."). See also Randall S. Thomas and James F. Cotter, Measuring Securities Market Efficiency in the Regulatory Setting, 63 Law & Contemp. Probs. 105 (2000) at 106.

[25] See Reproposal of Comprehensive Revision to System for Registration of Securities Offerings, Release No. 33-6331 (Aug. 6, 1981) [46 FR 41902], at 9: "The Commission views as significant the strong relationship between float and information dissemination to the market and following by investment institutions." See also Thomas and Cotter, Measuring Securities Market Efficiency in the

all of the available information of a given company. Technology can facilitate and enhance market following, but it does not ensure it. Therefore, we are retaining public float as a factor in determining the extent of short-form eligibility. While the purpose of these amendments is to give smaller companies added flexibility to quickly respond to favorable market conditions by conducting some primary shelf offerings on Form S-3, this objective must be balanced against the imperatives of investor protection.

Concerns have been raised in the past when the Commission considered easing the restrictions of shelf registration eligibility to allow smaller public companies to use a modified form of shelf registration,[26] and similar concerns were voiced again during the comment period.[27] It has been observed that the securities of smaller public companies are comparatively more vulnerable to price manipulation than the securities of larger public companies,[28] and may also be more prone to financial reporting error and abuses.[29]

Regulatory Setting, at 108 (stating that the numerical thresholds of Form S-3 were intended to be a rough proxy for which companies were widely followed by the investment community).

26 See, for example, Report of the Task Force on Disclosure Simplification (Mar. 5, 1996), available at http://www.sec.gov/news/studies/smpl.htm. See also Delayed Pricing for Certain Registrants, Release No. 33-7393 (Feb. 20, 1997) [62 FR 9276].

27 See letter from the CII.

28 See, for example, Rajesh Aggarwal and Guojon Wu, Stock Market Manipulations, 79 Journal of Business, No. 4 (2006). The authors' data indicate that manipulative practices predominantly occur in the Over-the-Counter Bulletin Board, Pink Sheets and other regional or unidentified markets characterized by very low average trading volume and market capitalization. The authors conclude that stock manipulation is more likely to occur "in relatively inefficient markets . . . that are small and illiquid."

29 In its letter commenting on the Proposing Release, the CII "strongly opposed any weakening of the proposed limitations on eligibility in the final rule," stating:

> We share the Commission's concerns that the Proposed Rule presents "risks to investor protection by expanding the base of companies eligible for primary offerings" on Forms S-3 and F-3 . . . In addition [to the risks discussed by the Commission in the Proposing Release], we believe that the final rule should explicitly acknowledge that smaller public companies have long been especially prone to financial reporting fraud. Consistent with the historical evidence, a recent analysis of the reporting by public companies in response to SEC Staff Accounting Bulletin 108 found that (1) reporting errors at smaller public companies "tend to be more significant" than those of larger companies; and (2) smaller public companies "are more likely to sit on errors that decrease earnings than big companies." Thus, the Commission should ensure that the final rule avoids

As we stated in the Proposing Release, although we believe that the public securities markets have benefited from advances in both technology and corporate disclosure requirements, we are nevertheless mindful that companies with a smaller market capitalization as a group have a comparatively smaller market following than larger, well-seasoned issuers and are more thinly traded. In such markets, the potential for manipulative practices is more acute.[30] As such, we are sensitive to the market effects of loosening the standards for shelf eligibility without limitation.

We also note that the disclosure obligations and liability imposed by the federal securities laws on smaller public companies are comparable, but not identical, to the largest reporting companies.[31] We are comfortable that the scaled disclosure standards

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understating the significant risks that smaller public companies present to investors [emphasis in original].

30 The Commission's staff has stated previously that, with respect to short sales in reliance on the safe harbor of Rule 144 where the borrower closes out using the restricted securities, all the conditions of Rule 144 must be met at the time of the short sale. See Questions 80 through 82 of Resales of Restricted and Other Securities, Release No. 33-6099 (Aug. 2, 1979) [44 FR 46752, 46765]. In the Commission's view, the term "sale" under the Securities Act includes contract of sale. See Securities Offering Reform, Release No. 33-8591 (Jul. 19, 2005) [70 FR 44722, 44765] and Short Selling in Connection with a Public Offering, Release No. 34-56206 (Aug. 6, 2007)[72 FR 45094]. The Commission has previously indicated that, in a short sale, the sale of securities occurs at the time the short position is established, rather than when shares are delivered to close out that short position, for purposes of Section 5 of the Securities Act. See, for example, Questions 3 and 5 of Commission Guidance on the Application of Certain Provisions of the Securities Act of 1933, the Securities Exchange Act of 1934, and Rules thereunder to Trading in Security Futures Products, Release No. 33-8107 (June 21, 2002) [67 FR 43234] and Release No. 34-56206 n. 46 (Aug. 6, 2007) [72 FR 45094, 45096].

31 Beginning with its introduction in 1992, Regulation S-B of the Securities Act provided for a scaled set of disclosure requirements for small business issuers. Small Business Initiatives, Release No. 33-6949 (July 30, 1992) [57 FR 36442]. Recent amendments to the disclosure regime for smaller companies maintain these scaled disclosure requirements, but integrate them into Regulation S-K. Smaller Reporting Company Regulatory Relief and Simplification, Release No. 33-8876 (Dec. 19, 2007).

In addition, we acknowledge that the companies implicated in this rulemaking are not yet fully subject to Section 404 of Sarbanes-Oxley. See Internal Control Over Financial Reporting in Exchange Act Periodic Reports of Non-Accelerated Filers and Newly Public Companies, Release No. 33-8760 (Dec. 15, 2006) [71 FR 76580]. We have taken steps to implement a plan to improve the efficiency and effectiveness of Section 404 implementation, including its scalability to smaller companies. See Commission Guidance Regarding Management's Report on Internal Control Over Financial Reporting Under Section 13(a) or 15(d) of the Securities Exchange Act of 1934, Release No. 34-55929 (June 20, 2007) [72 FR 35323]. It is true, however, that, unlike "large accelerated filers" and

for smaller public companies are sufficiently comparable to those governing larger issuers such that the limited expansion of Form S-3 primary offering eligibility, as we are adopting it, will not adversely impact investors. However, the level of disclosure required of smaller public companies under the federal securities laws is yet another factor that we believe weighs against expanding Form S-3 eligibility further than we have in this release.[32]

In revising the shelf eligibility requirements, therefore, we must consider the unique set of investment risks posed by smaller public companies in the context of shelf registration, which provides speed and flexibility to issuers, but at the same time may limit Commission and underwriter involvement in the registration process. Extending the benefits of shelf registration to an expanded group of transactions will limit the staff's direct prior involvement in takedowns of securities off the shelf. Although the Commission's staff may review registration statements before they are declared effective, individual takedowns are not conditioned on further Commission action or subject to prior selective staff review.[33] In addition, the short time horizon of shelf offerings may

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"accelerated filers," companies that are "non-accelerated filers" (companies with less than $75 million in float) will not need to comply with the auditor's attestation report requirements of Section 404 until they file their annual report for the fiscal year ending on or after December 15, 2008. For large accelerated filers and accelerated filers, the auditor's attestation report is required for all annual reports for fiscal years ending on or after November 15, 2004. In light of this fact, one commenter recommended that Form S-3 eligibility be contingent on full implementation of both the management and auditor attestation report requirements of Section 404. See letter from the CII. Because adding this condition would effectively delay the benefits of these Form S-3 amendments to smaller public companies for at least one year, and because the decision has been made to allow smaller public companies to phase in full compliance with Section 404, we have decided not to delay the effective date of this rulemaking. We may revisit the limitation on our expansion of Form S-3 after full compliance with Section 404 is complete.

32 This is especially true given that, under recent amendments, the scaled detailed disclosure regime for smaller companies will now extend to issuers who have a public float between $25 and $75 million. Release No. 33-8876. Prior to such amendments, only companies with less than $25 million in public float were covered by the disclosure requirements of Regulation S-B.

33 We note some commenters suggested that our concerns about expanding the base of companies eligible to use Form S-3 for primary offerings "off the shelf" could be alleviated by requiring more

also reduce the time that participating underwriters have to apply their independent scrutiny and judgment to an issuer's prospectus disclosure. Historically, concerns such as these have been at the center of the debate when the Commission has previously considered expanding shelf registration eligibility.[34]

Accordingly, since the Commission first introduced the system of integrated disclosure more than twenty-five years ago, the ability to use Form S-3 to conduct primary offerings "off the shelf" has been carefully tempered by restricting the class of companies eligible for this benefit. Consistent with this well-established approach, we are amending the Form S-3 eligibility requirements to enable more companies to use

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detailed disclosure from these companies. See letters from Feldman Weinstein and Morrison & Foerster. However, requiring additional disclosure would not address the fact that the staff does not have the ability to review, in advance, individual takedowns off an effective shelf registration statement. Prospectus supplements reflecting such takedowns are filed after the fact. Similarly, the fact that the Form S-3 filed by reporting companies with smaller public floats would not become automatically effective and would therefore remain subject to pre-effective review and comment by the Commission's staff does not satisfactorily address the lack of the staff's prior involvement in shelf takedowns. See letter from the ABA.

34 Among other things, the Commission's 1996 Task Force on Disclosure Simplification made several recommendations to amend the shelf registration procedure "so as to provide increased flexibility to a wider array of companies with respect to their capital-raising activities." These recommendations included a "modified form of shelf registration" that would have allowed smaller companies to price their securities on a delayed basis for up to one year in order to time securities offerings more effectively with opportunities in the marketplace. The Task Force stated:

> While this recommendation will afford small companies time and cost savings, the Task Force appreciates concerns raised about possible adverse effects shelf registration may have on the adequacy and accuracy of disclosures provided to investors, on Commission oversight of the disclosures and on the role of underwriters in the registration process. These concerns are similar to those raised when the shelf registration rule was first being considered on a temporary basis and was made available to any offering including an initial public offering.

Report of the Task Force on Disclosure Simplification, at 33. Following on the Task Force's recommendations, in 1997 the Commission proposed to permit certain smaller companies to price registered securities offerings on a delayed basis for up to one year after effectiveness. Release No. 33-7393. In that release, the Commission noted:

> Concerns have been raised that the expedited access to the markets that would be provided by these proposals could make it difficult for gatekeepers, particularly underwriters, to perform adequate due diligence for the smaller companies that would be eligible to use expanded Rule 430A.

Form S-3 for primary offerings,[35] but only to the extent that they are consistent with investor protection.

B. Amendments to Form S-3

We are adopting new General Instruction I.B.6. to Form S-3 to allow companies with less than $75 million in public float to register primary offerings of their securities on Form S-3,[36] provided they:

- meet the other registrant eligibility conditions for the use of Form S-3;[37]

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[35] As part of Recommendation IV.P.3 of the Final Report, the Advisory Committee also recommended that the Commission extend S-3 eligibility for secondary transactions to issuers with securities quoted on the Over-the-Counter Bulletin Board. General Instruction I.B.3. to Form S-3 limits the use of the form for secondary offerings to securities "listed and registered on a national securities exchange or . . . quoted on the automated quotation system of a national securities association," a restriction that excludes the securities of Over-the-Counter Bulletin Board and Pink Sheets issuers. In addition, some commenters to the Proposing Release echoed the recommendation of the Advisory Committee and supported extending the use of Form S-3 for secondary offerings to additional issuers who are ineligible under current rules. See letters from the ABA; Feldman Weinstein; SBA; and Williams Securities. After considering the recommendation of the Advisory Committee and commenters, we are not at this time amending the Form S-3 eligibility rules for secondary offerings. As we made clear in the Proposing Release, this rulemaking pertains only to the limited issue of Form S-3 eligibility for primary securities offerings and is not intended to encompass or otherwise impact existing requirements for secondary offerings on Form S-3. Moreover, any amendment of the Form S-3 requirements for secondary offerings would have to be carefully weighed against the costs of further exposing the markets to the potential for abusive primary offerings disguised as secondary offerings. Therefore, at this time we are not revising secondary offering eligibility under General Instruction I.B.3.

[36] Form S-3 eligibility under new General Instruction I.B.6. (and Form F-3 eligibility under new General Instruction I.B.5.) applies only to an issuer's ability to conduct a limited primary offering on Form S-3 (or Form F-3, as applicable). That is, an issuer's eligibility to use Form S-3 or Form F-3 under these new form instructions does not mean that the issuer meets the requirements of Form S-3 or Form F-3 for purposes of any other rule or regulation of the Commission (apart from Rule 415(a)(1)(x), which pertains to shelf registration). Instruction 6 to new General Instruction I.B.6. of Form S-3 and Instruction 6 to new General Instruction I.B.5. of Form F-3.

Rule 415(a)(1)(x) permits shelf offerings of securities "registered (or qualified to be registered)" on Form S-3 or Form F-3 (emphasis added). We note that a closed-end investment company, including a business development company, ("closed-end fund") that meets the eligibility standards enumerated in Form S-3, as revised by new General Instruction I.B.6., may register its securities in reliance on Rule 415(a)(1)(x) notwithstanding the fact that closed-end funds register their securities on Form N-2 rather than Form S-3.

[37] See General Instruction I.A. of Form S-3. Among other things, General Instruction I.A. requires that the registrant:

- has a class of securities registered pursuant to Sections 12(b) or 12(g) of the Exchange Act or is required to file reports pursuant to Section 15(d) of the Exchange Act; and
- has been subject to the requirements of Sections 12 or 15(d) of the Exchange Act and has filed in a timely manner all the material required to be filed pursuant to Sections 13, 14 or 15(d) for

- have a class of common equity securities that is listed and registered on a national securities exchange;[38]

- do not sell more than the equivalent of one-third of their public float in primary offerings under General Instruction I.B.6. of Form S-3 over the previous period of 12 calendar months;[39] and

- are not shell companies[40] and have not been shell companies for at least 12 calendar months before filing the registration statement.

1. One-Third Cap and Listed Securities Only

As discussed above, we are sensitive to the risks associated with making shelf registration available to more issuers. At the same time, we are also sensitive to the possibility that constraining the rule too much may limit its utility to the companies that qualify for its use. Therefore, we have decided to increase the limitation on the amount of securities that can be offered by companies under the new rules from 20% of public

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a period of at least twelve calendar months immediately preceding the filing of the Form S-3 registration statement.

[38] A "national securities exchange" is a securities exchange that has registered with the Commission under Section 6 of the Exchange Act [15 U.S.C. 78f]. There are currently ten securities exchanges registered under Section 6(a) of the Exchange Act as national securities exchanges. These are the New York Stock Exchange, American Stock Exchange and Nasdaq, as well as the Boston Stock Exchange, Chicago Board Options Exchange, Chicago Stock Exchange, International Securities Exchange, National Stock Exchange (formerly the Cincinnati Stock Exchange), NYSE Arca (formerly the Pacific Exchange) and the Philadelphia Stock Exchange. In addition, an exchange that lists or trades security futures products (as defined in Section 3(a)(56) of the Exchange Act [15 U.S.C. 78c(56)]) may register as a national securities exchange under Section 6(g) of the Exchange Act solely for the purpose of trading security futures products. For purposes of new General Instruction I.B.6., however, only exchanges registered under Section 6(a) of the Exchange Act will be deemed to be "national securities exchanges." Instruction 8 to new General Instruction I.B.6.

[39] The meaning of the phrase "period of 12 calendar months" is intended to be consistent with the way in which the phrase "12 calendar months" is used for purposes of the registrant eligibility requirements in Form S-3. A "calendar month" is a month beginning on the first day of the month and ending on the last day of that month. For example, for purposes of Form S-3 registrant eligibility, if a registrant were not timely on a Form 10-Q due on September 15, 2006, but was timely thereafter, it would first be eligible to use Form S-3 on October 1, 2007. Similarly, for purposes of new General Instruction I.B.6. of Form S-3, if a registrant relies on this Instruction to conduct a shelf takedown equivalent to one-third of its public float on September 15, 2007, it will next be eligible to do another takedown (assuming no change in its float) on October 1, 2008.

[40] The term "shell company" is defined in Rule 405 of the Securities Act [17 CFR 230.405]. See also Use of Form S-8, Form 8-K, and Form 20-F by Shell Companies, Release No. 33-8587 (July 15, 2005) [70 FR 42233] (adopting definition of shell company).

float to one-third of public float, while at the same time conditioning a company's eligibility under new General Instruction I.B.6. of Form S-3 on having a class of common equity securities listed and registered on a national securities exchange (often described as "listed" securities).[41]

As proposed, new General Instruction I.B.6. of Form S-3 would have limited the amount of securities eligible companies could sell in accordance with its provisions to no more than the equivalent of 20% of their public float over any period of 12 calendar months. We proposed a cap of 20% in order to allow an offering that is large enough to help an issuer obtain financing when market opportunities arise, yet small enough to take into account the effect such new issuance may have on the market for a thinly traded security. As we stated in the Proposing Release, we believed that the 20% ceiling would help a large number of smaller public companies with their capital raising.[42]

Some commenters, however, were critical of this proposed restriction and concerned that capping issuers at 20% of the value of their public float every twelve months would limit the usefulness of the rule.[43] The commenters thought that the 20% ceiling would be of limited utility because they believed that the capital needs of small businesses would, in many cases, greatly exceed the amount of securities that could be

[41] New General Instruction I.B.6(c) of Form S-3.

[42] As we noted in the Proposing Release, the Division of Corporation Finance undertook a study of shelf registration takedowns in 2006 by companies with a public float of moderate size in order to evaluate the appropriate public float ceiling for the new rule. Specifically, the Division looked at all prospectus supplements filed pursuant to shelf registration statements in calendar year 2006 by companies with a public float between $75 million and $140 million. While we observed a wide range of variously sized shelf takedowns (from less than 1% of float to greater than 80% of float), the data indicated that 20% of float was approximately the median annual takedown for companies in the band considered. This suggested that limiting smaller public companies to 20% of their public float in any 12-month period might increase the capital raising alternatives for these companies consistent with investor protection.

[43] See, for example, letters from the ABA; SBA; Feldman Weinstein; Malizia Spidi; Morrison & Foerster; M. Shichtman; and Roth Capital.

sold under the rule.[44] Several commenters also suggested various alternatives to a 20% limit,[45] including raising the ceiling from 20% to at least one-third of a company's public float.[46]

After considering these comments, we have decided to set the twelve-month offering threshold under new General Instruction I.B.6. of Form S-3 at one-third of an issuer's public float. We are comfortable making this adjustment in light of the

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44 See letters from the SBA; Brinson Patrick; Feldman Weinstein; Malizia Spidi; M. Shichtman; and Roth Capital. For an opposing viewpoint, see letter from the CII.

45 See, for example, letters from Feldman Weinstein; Morrison & Foerster; and Williams Securities (commenters suggesting that a percentage of trading volume be used as an alternative to public float); Malizia Spidi and Roth Capital (commenters suggesting that shareholder approval be obtained for dilutive issuances constituting over 20% of public float); and letters from Feldman Weinstein and Morrison & Foerster (commenters suggesting that additional disclosure be required in lieu of imposing a 20% ceiling). Some commenters were also concerned that the Commission might amend Rule 430B of the Securities Act to vary the application of Section 11 liability to the various parties involved in a shelf registration statement based on the size of the issuer. See letters from BDO Seidman, LLP; Center for Audit Quality; Deloitte & Touche LLP; Ernst & Young LLP ("Ernst & Young"); and KPMG LLP ("KPMG"). These commenters maintained that the filing of a prospectus supplement to a shelf registration statement should not be considered a new effective date for purposes of Section 11 liability for auditors, regardless of the size of the issuer's public float. The set of comprehensive amendments in 2005, known as "Securities Offering Reform," provide in Rule 430B that the effective date for auditors who previously provided consent in an existing registration statement for their report on previously issued financial statements or previous reports on management's assessment of internal control over financial reporting does not change upon the filing of a prospectus supplement unless the prospectus supplement (and any Exchange Act report incorporated by reference into the prospectus and registration statement) contains new audited financial statements or other information as to which the auditor is an expert and for which a new consent is required. Release No. 33-8591. Two of the commenters emphasized that taking a different approach for smaller issuers would run the risk of creating substantial delays in the filing process (as auditors would have to provide new consents) and issuers would likely lose a substantial amount of flexibility in accessing the public markets. See letters from Ernst & Young and KPMG. We agree with these commenters and are not modifying Rule 430B in connection with this rulemaking.

46 See letters from the ABA; Feldman Weinstein; Morrison & Foerster; M. Shichtman; and Williams Securities. The SBA also suggested raising the threshold in its letter, but did not specify the size of the increase it favored. We note that some of the commenters who advocated increasing the threshold to one-third of a company's public float reasoned that doing so would harmonize the amount of securities which could be registered in a primary offering on Forms S-3 and F-3 under the proposed rule with a purported staff position in a different context. See letter from Feldman Weinstein. See also letters from Morrison & Foerster and Williams Securities. The purported staff position is not related to the instant Form S-3 and Form F-3 amendments, which concern expanding the availability of these forms for primary offerings to more companies. Rather, the staff has indicated that some resale registration statements may raise a concern where, among other things, there is an unusually large number of shares being registered in relation to the number of the issuer's outstanding shares held by nonaffiliates. In these situations, the staff may question whether the offering is a bona fide secondary transaction or a disguised primary offering.

additional protection afforded by the new requirement in General Instruction I.B.6(c) of Form S-3 that eligibility under this instruction is contingent upon the registrant having a class of common equity securities listed and registered on a national securities exchange, as discussed below. We think raising the cap to one-third of public float will allow an offering that is large enough to help an issuer raise a relatively significant amount of capital when market opportunities arise, but still small enough for us to moderate the expansion of shelf eligibility with appropriate attention to the protection of investors, including the effect such new issuance may have on the market for a thinly traded security.

Under these amendments, offerings above the one-third cap would violate the form requirements of Form S-3. In order to provide absolute clarity on this point, we are adopting a corresponding amendment to Rule 401(g)[47] of the Securities Act to provide that violations of the one-third cap would also violate the requirements as to proper form under Rule 401 even though the registration statement previously has been declared effective.[48]

Our objective with this rulemaking is to provide smaller companies some additional financing flexibility that will aid them in their efforts to raise capital, but at the same time give the Commission an opportunity to consider the impact of this expansion in an environment where there are limitations in place to address investor protection. As a general proposition, the greater the magnitude of the offering, the more likely it is that the transaction will be transformative to the issuer rather than routine in nature, such as

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[47] 17 CFR 230.401(g).

[48] See letter from the ABA (recommending that the Commission not revise current Rule 401(g) to provide that an issuer will be deemed to have used an incorrect registration form if it exceeds the one-third cap under new General Instruction I.B.6.).

the incremental expansion of the issuer's business. At the current time, we believe that securities transactions exceeding one-third of the value of an issuer's public float are generally of such significance to the issuer that the opportunity for specific staff review of the transaction and a greater window for underwriter due diligence are advisable.

We believe that the one-third cap will help a substantial number of smaller public companies with their capital raising needs, which is supported by our observations of market activity of recent shelf registrants.[49] Moreover, it is important to understand that the one-third cap imposed by new General Instruction I.B.6. to Form S-3 only relates to other primary offerings conducted pursuant to this instruction. Accordingly, an issuer that is temporarily prevented from utilizing Form S-3 for shelf offerings to raise capital would not be foreclosed from registering a primary offering of securities on Form S-1 or in private placements. The new eligibility instruction that we are adopting today is not meant to be mutually exclusive. Rather, it is designed to provide added flexibility to smaller public companies by giving them supplemental avenues of capital formation. As we have stated previously, our adoption of this amendment does not foreclose the possibility that we may revisit the appropriateness of this one-third cap at a later time. For now, however, we think that this limitation promotes small business capital formation consistent with the protection of investors.

At the same time that we are adopting an offering ceiling under new General Instruction I.B.6. of one-third of an issuer's public float, we are also making eligibility under this new rule contingent on the issuer having a class of common equity securities

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[49] When we further narrowed the set of shelf registration takedowns reviewed (the original review is referenced in n. 42) to companies with at least one class of listed common equity, the data indicated that 75% of sample registrants took down the equivalent of one-third or less of their public float annually off the shelf. For the majority of these sample registrants, therefore, an offering ceiling of one-third would appear satisfactory.

listed and registered on a national securities exchange.[50] In the Proposing Release, we requested comment as to whether we should allow all companies with a public trading market, including companies with securities traded in the over-the-counter market such as the Pink Sheets, to use the amended Form S-3 as proposed or whether we should limit eligibility to inter-dealer quotations systems with some level of oversight and operated by a self-regulatory organization.[51] In addition, we asked whether there were other restraints on the proposed expansion of Form S-3 eligibility that should be considered, such as restrictions on the class of issuers that could utilize the revised forms.[52] Most commenters did not address these specific points directly, but their responses generally suggested that they would not favor further restrictions on a registrant's form eligibility in addition to those already proposed.[53] However, one commenter expressed concern over the risks inherent in expanding the base of companies eligible for primary offerings on Forms S-3 and F-3 and, accordingly, recommended that Form S-3 and Form F-3 eligibility be contingent on full implementation of both the management and auditor attestation report requirements of Section 404.[54] At a minimum, the commenter opposed any weakening of the proposed limitations on eligibility in the final rule.

Allowing only companies with at least one class of listed common equity securities to avail themselves of new General Instruction I.B.6. should help to minimize potential abuses that may arise from expanded shelf registration. This is because the exchanges' listing rules and procedures, as well as other requirements, provide an

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50 New General Instruction I.B.6(c) of Form S-3.

51 The Proposing Release, at 35127.

52 Id.

53 See, for example, letters from the ABA; Feldman Weinstein; Malizia Spidi; Morrison & Foerster; SBA; M. Shichtman; and Williams Securities.

additional measure of protection for investors.[55] Exchanges have both quantitative and qualitative listing rules that are designed to evidence that their listed issuers meet specified minimum requirements when the issuer first lists on the exchange and thereafter. Initial listing standards serve as a means for an exchange to screen issuers and to provide listed status to issuers with sufficient public float, investor base, and trading interest to assure that the market for the issuer's security has the depth and liquidity necessary to maintain fair and orderly markets. Maintenance listing criteria help assure that the issuer continues to meet the exchange's standards for depth and liquidity. While the exchanges' listing standards with respect to common equity securities can vary,[56] generally the exchanges require the issuer to meet minimum standards relating to number of public shareholders and shares outstanding, shareholder approval of specified matters, and, in certain cases, earnings or income. Moreover, the exchanges' listing standards generally require issuers of common equity securities to meet strong corporate governance standards, including the requirement that the issuer's board be composed of a majority of independent directors and that key committees be composed solely of independent directors.[57] Exchange-listed securities also are subject to real-time reporting of quotation and transaction information, which benefits investors by apprising them of

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54 See letter from the CII. See also nn. 29 and 31 discussing this letter.

55 In contrast to the national securities exchanges, automated inter-dealer quotation systems such as the Over-the-Counter Bulletin Board and the Pink Sheets do not provide companies with the ability to list their securities, but, rather, serve as a medium for the over-the-counter securities market by collecting and distributing market maker quotes to subscribers. These automated inter-dealer quotation systems do not maintain or impose listing standards, nor do they have a listing agreement or arrangement with the companies whose securities are quoted through them.

56 See, for example, Nasdaq Rules 4300 et seq., and NYSE Listed Company Manual ("LCM"), Sections 1 through 9.

57 See, for example, Nasdaq Rule 4350 and NYSE LCM Section 3, which require listed issuers to comply with Rule 10A-3 under the Exchange Act, 17 CFR 240.10A-3, with regard to audit committee responsibility and independence, as well as an additional, broader array of corporate governance standards.

current market information about the security. Together, these common attributes allow the exchanges to sustain efficient and liquid markets that should help monitor the expansion of shelf registration eligibility on Form S-3 and help mitigate any attendant risks posed by expansion.[58]

We also note that limiting eligibility under new General Instruction I.B.6. to companies with common equity securities listed on a national securities exchange is more consistent with our historical treatment of secondary offering eligibility on Form S-3.[59] We think this parallel approach is sensible given that Form S-3 has for many years allowed registrants to conduct secondary offerings on the form irrespective of public float, so long as the securities offered thereby were listed securities.[60]

Some commenters noted that, under the proposed amendments, companies with securities not listed or authorized for listing on a national securities exchange would nevertheless be eligible to offer such securities in primary offerings on Form S-3 or Form F-3 so long as there was a public trading market for their securities.[61] Because such securities would not be "covered securities," as defined by Section 18(b) of the Securities Act, commenters expressed concern that some companies registering transactions under

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58 See n. 28.

59 See General Instruction I.B.3. of Form S-3.

60 In its comment letter, the ABA pointed out that, as proposed, the eligibility standards for primary offerings on Form S-3 would have allowed both "listed and unlisted" reporting companies to make primary offerings on the form, while resale transactions on Form S-3 are limited to reporting companies whose securities are listed on a national securities exchange or quoted on the automated quotation system of a national securities association. In addition, the ABA noted that the staff of the Commission, through interpretive guidance, has historically permitted unlisted companies that are primarily eligible to use Form S-3 under the existing rules to register resale transactions on Form S-3 notwithstanding that the resale eligibility rules of Form S-3 require that the securities be listed on an exchange or quoted on the automated quotation system of a national securities association. We believe that the final rules, by limiting primary offering eligibility under new General Instruction I.B.6. to companies with equity securities listed on a national securities exchange, address these inconsistencies noted by the ABA in its comment letter.

61 See letters from the ABA; Feldman Weinstein; Morrison & Foerster; and Williams Securities Law.

new General Instruction I.B.6. might well be subject to state securities registration requirements, which would frustrate the speed and efficacy of shelf registration. However, because we are limiting eligibility under the new rules to companies with listed equity, in most cases issuers will not be subject to state securities registration requirements in their efforts to raise capital utilizing new General Instruction I.B.6. By requiring issuers to have at least one listed class of common equity securities, most securities offered pursuant to the new eligibility rules will be "covered securities," as defined by Section 18(b) of the Securities Act, and therefore exempt from state Blue Sky regulation.[62]

2. Calculation of Amount of Securities That May Be Sold

To ascertain the amount of securities that may be sold pursuant to Form S-3 by registrants with a public float below $75 million, the new rule requires a two-step process:

- determination of the registrant's public float immediately prior to the intended sale; and
- aggregation of all sales of the registrant's securities pursuant to primary offerings under General Instruction I.B.6. of Form S-3 in the previous 12-month period (including the intended sale) to determine whether the one-third cap would be exceeded.

The new rule requires registrants to compute their public float by reference to the price at which their common equity was last sold, or the average of the bid and asked prices of their common equity, in the principal market for the common equity as of a date within

[62] The exception would be a class of securities that are neither listed nor at least equal in seniority to a class of the issuer's listed securities. See Section 18(b)(1)(A) through (C) of the Securities Act [15 U.S.C. 77r(b)(1) (A) through (C)].

60 days prior to the date of sale.[63] Then, for purposes of calculating the aggregate market value of securities sold during the preceding period of 12 calendar months, the rule requires registrants to add together the gross sales price for all primary offerings pursuant to new General Instruction I.B.6. to Form S-3 during the preceding period of 12 calendar months. Based on that calculation, registrants will be permitted to sell securities with a value up to, but not greater than, the difference between one-third of their public float and the value of securities sold in primary offerings on Form S-3 under new General Instruction I.B.6. in the prior period of 12 calendar months.

The aggregate gross sales price includes sales of equity as well as debt offerings.[64] Therefore, eligible registrants will also be able to offer non-investment grade debt on Form S-3.[65] In the case of securities that are convertible into or exercisable for equity shares, such as convertible debt or warrants, however, we are requiring that registrants calculate the amount of securities they may sell in any period of 12 calendar months by reference to the aggregate market value of the underlying equity shares in lieu of the market value of the convertible securities. The aggregate market value of the underlying equity will be based on the maximum number of shares into which the securities sold in the prior period of 12 calendar months are convertible as of a date within 60 days prior to

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63 Instruction 1 to new General Instruction I.B.6. of Form S-3. This is modeled after the calculation of public float provided in the instruction to General Instruction I.B.1. of Form S-3. However, the relevant date for purposes of Instruction 1 to new General Instruction I.B.6. is the date of sale, while the relevant date for purposes of General Instruction I.B.1. is the date of filing.

64 As adopted, the method of calculating the one-third cap on sales is the same whether the registrant is selling equity or debt securities, or a combination of both. As we discussed in the Proposing Release, we had some concern that we would be inadvertently encouraging issuances of debt securities over equity if the proposed limitation on sales excluded debt. Because we do not intend for the rule to dictate or otherwise influence the overall form of security that companies offer, we have adopted the one-third cap on sales to include both equity and debt.

65 The provisions of Form S-3 in effect today allow registrants to offer non-convertible investment grade debt securities on Form S-3 regardless of the size of their public float. General Instruction I.B.2. to Form S-3.

the date of sale, multiplied by the same per share market price of the registrant's equity used for purposes of calculating its public float pursuant to Instruction 1 to new General Instruction I.B.6. of Form S-3. We believe calculating the one-third cap based on the market value of the underlying securities makes it less likely that convertible securities would be structured and offered in a manner designed to avoid the effectiveness of the cap.

It is important to note that the one-third cap on sales is not intended to impact a holder's ability to convert or exercise derivative securities purchased from the company. For example, this limit will apply to the amount of common stock warrants that a company can sell under Form S-3, and the number of common shares into which the warrants are exercisable will be relevant for determining the company's compliance with the one-third cap at the time the warrants were sold, but the number will not impede the purchaser's later exercise of the warrants.

As adopted, the one-third cap is designed to allow issuers flexibility. Because the restriction on the amount of securities that can be sold over a period of 12 calendar months is calculated by reference to a registrant's public float immediately prior to a contemplated sale, as opposed to the time of the initial filing of the registration statement, the amount of securities that an issuer is permitted to sell can continue to grow over time as the issuer's public float increases. Therefore, the value of one-third of a registrant's float during the period that a shelf registration statement is effective may, at any given time, be much greater than at the time the registration statement was initially filed. Registrants may therefore benefit from increases in the size of their public float during the time that the registration statement is effective. Conversely, the amount of securities that an issuer is permitted to sell at any given time may also decrease if the issuer's

public float contracts. It is important to note, however, that a contraction in a registrant's float, such that the value of one-third of the float decreases from the time the registration statement was initially filed, would not necessarily run afoul of the cap because the relevant point in time for determining whether a registrant has exceeded the threshold is the time of sale. If the sale of securities, together with all securities sold in the preceding period of 12 calendar months, does not exceed one-third of the registrant's float calculated within 60 days of the sale, then the transaction would not violate new General Instruction I.B.6. to Form S-3 even if the registrant's public float later drops to a level such that the prior sale now accounts for over one-third of the new lower float.[66] To keep track of the securities sold under General Instruction I.B.6., the revised instructions to Form S-3 require registrants to disclose in each prospectus filed with the Commission their updated calculation of public float and the amount of securities offered pursuant to this instruction during the prior 12 calendar month period that ends on, and includes, the date of the prospectus.[67]

Because Form S-3 registrants who meet the $75 million float threshold of existing General Instruction I.B.1. at the time their registration statement is filed are not subject to restrictions on the amount of securities they may sell under the registration statement even if their float falls below $75 million subsequent to the effective date of the Form

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66 Along these lines, under the amendments registrants will be able to sell up to the equivalent of the full one-third of their public float immediately following the effective date of their registration statement, provided that there were no prior sales pursuant to new General Instruction I.B.6. of Form S-3. This is consistent with Rule 415(a)(1)(x), which was amended in 2005 to allow primary offerings on Form S-3 or Form F-3 to occur immediately after effectiveness of a shelf registration statement. Release No. 33-8591. Assuming that the sale of the entire one-third of public float allotted under the new form eligibility rules complied with the rule at the time of the takedown, the subsequent contraction in the registrant's public float will not invalidate this prior sale.

67 Instruction 7 to new General Instruction I.B.6.

S-3 but prior to the update required under Section 10(a)(3) of the Securities Act, we believe it is appropriate to provide issuers registering on Form S-3 pursuant to new General Instruction I.B.6. the same flexibility if their float increases to a level that equals or exceeds $75 million subsequent to the effective date of their Form S-3 without the additional burden of filing a new Form S-3 registration statement. Therefore, we are adopting an instruction to I.B.6. that lifts the one-third cap on additional sales in the event that the registrant's float increases to $75 million or more subsequent to the effective date of the registration statement.[68] Of course, pursuant to Rule 401 under the Securities Act, registrants are also required to recompute their public float each time an amendment to the Form S-3 is filed for the purpose of updating the registration statement in accordance with Section 10(a)(3) of the Securities Act — typically when an annual report on Form 10-K is filed. In the event that the registrant's public float as of the date of the filing of the annual report is less than $75 million, the one-third cap will be reimposed for all subsequent sales made pursuant to new General Instruction I.B.6. and will remain in place until the registrant's float equals or exceeds $75 million.

The following examples illustrate how the new Instruction will operate.[69] For purposes of these examples, we are assuming that the hypothetical registrants satisfy the registrant eligibility requirements in General Instruction I.A. of Form S-3, are not shell companies, and have at least one class of common equity securities listed and registered on a national securities exchange.

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68 Instruction 3 to new General Instruction I.B.6. of Form S-3.

69 The examples that follow are for illustrative purposes only and are not intended to be indicative of actual market activity.

Example A

On January 1, 2009, a registrant with a public float of $25 million files a shelf registration statement on Form S-3 pursuant to new General Instruction I.B.6. intending to register the offer and sale of up to $50 million of debt and equity securities over the next three years from time to time as market opportunities arise.[70] The registration statement is subsequently declared effective. In March 2009, the registrant decides to sell common stock off the registration statement. To determine the amount of securities that it may sell in connection with the intended takedown, the registrant calculates its public float as of a date within 60 days prior to the anticipated date of sale, pursuant to Instruction 1 to new General Instruction I.B.6. Calculating that its public float has risen to $30 million, the registrant determines that the total market value of all sales effected pursuant to new General Instruction I.B.6. over the past year, including the intended sale, may not exceed $10 million, or one-third of the registrant's float. Since the registrant has conducted no prior securities offerings on Form S-3 pursuant to new General Instruction I.B.6., it is able to sell the entire $10 million off the Form S-3.

Assuming that it sold the entire $10 million of securities in March 2009, the registrant in September 2009 once again contemplates a takedown off the shelf. It determines that its public float (as calculated pursuant to Instruction 1 to new General Instruction I.B.6.) has again risen, this time to $54 million. Because one-third of $54 million is $18 million, the registrant is now able to sell additional securities in accordance with new General Instruction I.B.6(a), even though in March 2009 it took down the

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70 Although only one-third of the public float may be sold in any year, a company may register a larger amount. Release No. 33-8591 at 44774-5 (discussing the adoption of an amendment to Rule 415 that eliminated limits on the amount of securities that may be registered on Form S-3 or Form F-3 under Rule 415(a)(1)(x) and Rule 415(a)(1)(ix)).

equivalent of what was then the entire one-third of its float. However, because the registrant has already sold $10 million worth of its securities within the 12 calendar months prior to the contemplated sale, the registrant may sell no more than $8 million of additional securities at this time ($18 million minus $10 million of securities previously sold).

In December 2009, the registrant determines that its public float has risen to $78 million. To this point, assuming it has only sold an aggregate of $18 million of its securities pursuant to the subject Form S-3 as described above, it has $32 million of securities remaining on the registration statement and potentially available for takedown (the total amount registered of $50 million, less the $18 million previously sold). Because one-third of $78 million is $26 million, and the registrant has already sold $18 million within the previous year, new General Instruction I.B.6(a) will, in most circumstances, prohibit the registrant from selling more than an additional $8 million of securities in the latest offering. However, under Instruction 3 to new General Instruction I.B.6., the registrant is no longer subject to the one-third cap on annual sales because its float has exceeded $75 million. If it chooses, the registrant may sell the entire $32 million of securities remaining on the registration statement all at once or in separate tranches at any time until the company next updates the registration statement pursuant to Section 10(a)(3) by filing its Form 10-K. This will be the case even if the registrant's float subsequently falls below $75 million before it files that Form 10-K, at which time the registrant is required to recompute its public float in accordance with Rule 401. In the event that the registrant's public float as of the date of that Form 10-K filing is less than $75 million, the one-third cap will be reimposed for all subsequent sales made

pursuant to new General Instruction I.B.6. and will remain in place until the registrant's float equals or exceeds $75 million.

Example B

A registrant has 12 million shares of voting common equity outstanding held by nonaffiliates. The market price of this stock is $5 per share, so the registrant has a public float of $60 million. The registrant has an effective Form S-3 shelf registration statement filed in reliance on new General Instruction I.B.6. of Form S-3, pursuant to which the registrant wants to issue $10 million of convertible debt securities which will be convertible into common stock at a 10% discount to the market price of the common stock. Pursuant to Instruction 2 to new General Instruction I.B.6., the amount of securities issued is measured by reference to the value of the underlying common stock rather than the amount for which the debt securities will be sold. At the 10% discount, the conversion price is $4.50 and, as a result, 2,222,222 shares currently underlie the $10 million of convertible debt. Because the current market price of those underlying shares is $5 per share, for purposes of General Instruction I.B.6. the value of the securities being offered is $11,111,110 (2,222,222 shares at $5 per share), which is less than the $20 million allowed by the one-third cap (one-third of $60 million).

After the convertible debt securities are sold and are outstanding, the registrant contemplates an additional takedown. To determine the amount of securities that the registrant may sell under General Instruction I.B.6. in the anticipated offering, the registrant must know its current public float and must calculate the aggregate market value of all securities sold in the last year on Form S-3 pursuant to General Instruction I.B.6. Instruction 2 to new General Instruction I.B.6. requires that the registrant compute the market value of convertible debt securities sold under I.B.6. by reference to the value

of the underlying common stock rather than the amount for which the debt securities were sold. With respect to the notes that were sold and have been converted, the aggregate market value of the underlying common stock is calculated by multiplying the number of common shares into which the outstanding convertible securities were converted times the market price on the day of conversion. With respect to the notes that were sold but have not yet been converted, the aggregate market value of the underlying common stock is calculated by multiplying the maximum number of common shares into which the notes are convertible as of a date within 60 days prior to the anticipated sale by the per share market price of the registrant's equity used for purposes of determining its current float.[71]

In this example, assume that the registrant has a current per share stock price of \$5.55. If half of the notes converted into common stock while the per share market price was \$5.00 (\$4.50 discount), then, for purposes of Instruction 2 to new General Instruction I.B.6., the value of that prior issuance is \$5,555,555 (half of the notes divided by the discounted conversion price of \$4.50 and then multiplied by \$5, the market price on the day of conversion).

As for the notes that have not yet been converted, the aggregate market value of the underlying common stock is determined by calculating the number of shares that may be received upon conversion and multiplying that by the current market value of \$5.55. Therefore, the outstanding note amount (\$5 million) is divided by the discount conversion price (\$5), resulting in 1,000,000 shares and this amount is then multiplied by

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71 The date chosen by the registrant for determination of the maximum number of shares underlying the convertible notes must be the same date that the registrant chooses for determining its market price in connection with the calculation of public float pursuant to new General Instruction I.B.6. See Instruction 5 to new General Instruction I.B.6.

the current market value of $5.55. Thus, for purposes of Instruction 2 to new General Instruction I.B.6., $5,550,000 is the value of the outstanding notes that have not yet been converted. Adding this to the value of the notes that have already been converted results in a total value of $11,105,555 having been issued under this Form S-3.

To determine the amount of additional securities that the registrant may sell under General Instruction I.B.6., the registrant should add the value of the notes issued ($11,105,555) plus the value of all other securities sold by the registrant pursuant to Instruction I.B.6. during the preceding 12 calendar months. If this amount is less than one-third of the registrant's current public float, it may sell additional securities with a value up to, but not greater than, the difference between one-third of its current public float and the value of all securities sold by it pursuant to Instruction I.B.6. during the preceding 12 calendar months.

Example C

A registrant has an effective registration statement on Form S-3, filed pursuant to new General Instruction I.B.6., through which it intends to conduct shelf offerings of its securities. At the time of its first shelf takedown, the registrant's public float is equal to $21 million (which means that the maximum amount available to be sold under the one-third cap would be $7 million). Based on new General Instruction I.B.6(a), the registrant sells $3 million of its debt securities. Six months later, the registrant's public float has decreased to $9 million. The registrant wishes to conduct an additional takedown of debt securities off the shelf but, because of the reduction in its float, it is prohibited from doing so. This is because with a public float of $9 million, General Instruction I.B.6(a) only allows the registrant to sell a maximum of $3 million worth of securities (one-third of $9 million) pursuant to the registration statement during the prior period of 12 calendar

months that ends on the date of the contemplated sale. However, the registrant has already sold securities valued (for purposes of new General Instruction I.B.6.) at $3 million in the 6 months prior to the contemplated sale and so must wait until at least one full year has passed since the $3 million sale of securities to undertake another offering off the Form S-3 unless its float increases. Note that although the registrant's float does not allow additional sales, the $3 million takedown of securities 6 months prior does not violate the one-third cap because, at the time of that prior sale, the registrant's float was $21 million.

Example D

Pursuant to new General Instruction I.B.6., a registrant with a public float of $48 million files a Form S-3, which the registrant intends to use as a universal shelf registration statement to sell up to $100 million of debt or equity securities, or a combination of both at any time or from time to time.

After the registration statement is declared effective, the registrant decides to do a takedown off the shelf comprised of convertible promissory notes and warrants to purchase to common stock. The notes are convertible into shares of common stock at a 50% discount to the market price of the common stock. The warrants are exercisable for shares of common stock at an exercise price equal to $5 per share. Because the registrant's float is $48 million, it may sell up to $16 million of securities (one-third of $48 million) pursuant to General Instruction I.B.6. The registrant wants to do a takedown of $1 million in convertible promissory notes. The registrant intends to issue the notes along with warrants to purchase an additional 10,000 shares of its common stock.

In order to determine if this sale is permissible under General Instruction I.B.6., the registrant must calculate the amount of securities it has sold pursuant to General

Instruction I.B.6. in the previous 12 months and add this to the value of the securities in the intended sale. If the combined value is $16 million or less, it may proceed with the sale.

Assume that the registrant has not sold any securities pursuant to the Instruction I.B.6. in the previous 12 months. To determine the value of the convertible promissory notes, the registrant is required by Instruction 2 to General Instruction I.B.6. to calculate the value of the shares underlying the convertible notes. The notes are convertible into shares of common stock at a 50% discount to the market price of the common stock. Assuming that the market price of the common stock is $2 per share, the notes are convertible as follows: $1 million (the price of the notes) divided by 1 (50% of the market price of the common stock) is equal to 1 million shares of common stock that the purchasers will receive upon conversion. Since the market price of the stock is $2 per share, the value of the 1 million shares is $2 million (1 million shares at $2 per share). Therefore, the value of the accompanying warrants for 10,000 shares must be less than $14 million for the sale to be within the one-third cap (one-third of $48 million, less the $2 million of common stock underlying the convertible notes).

To calculate the value of the warrants, which are derivative securities, Instruction 2 to General Instruction I.B.6. requires that the registrant calculate the value of the shares underlying the warrants in lieu of the market value of the warrants. Under the terms of the warrants, the warrants are exercisable for 10,000 shares at an exercise price of $5 per share.

Instruction 2 to General Instruction I.B.6. states that the aggregate market value of the underlying equity shall be calculated by multiplying the maximum number of common equity shares into which the derivative securities are convertible or for which

they are exercisable, as of a date within 60 days prior to the date of sale, by the same per share market price of the registrant's equity used for purposes of calculating the registrant's float. Assuming that the market price of the registrant's stock is $2 per share, the value of the shares underlying the warrants is $20,000 (10,000 shares multiplied by $2 per share). Because the underlying value of the convertible notes is $2 million and the underlying value of the warrants is $20,000, the intended sale has a value of $2,020,000 and does not exceed the one-third cap (of $16 million).

3. Exclusion of Shell Companies

In accordance with our desire to expand Form S-3 eligibility consistent with the protection of investors, the expanded eligibility rules specifically exclude shell companies, which will be prohibited from registering securities in primary offerings on Form S-3 unless they meet the minimum $75 million float threshold of General Instruction I.B.1.[72] While we are not passing on the relative merits of shell companies and we recognize that these entities are used for many legitimate business purposes, we have repeatedly stated our belief that these entities may give rise to disclosure abuses.[73] Under the final rules, a former shell company that cannot meet the $75 million float

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[72] This prohibition is intended to apply equally to "blank check companies," as such entities are defined in Rule 419 of the Securities Act. However, because we believe that the definition of "shell company" under Rule 405 is expansive enough to encompass blank check companies for purposes of excluding them from S-3 eligibility under new General Instruction I.B.6., we do not exclude them separately. See Use of Form S-8 and Form 8-K by Shell Companies, Release No. 33-8407 (Apr. 15, 2004) [69 FR 21650], at n. 20:

> We believe that under today's proposals all blank check companies as defined in Rule 419 would be considered shell companies until they acquire an operating business or more than nominal assets. Not all shell companies, however, would be classified as blank check companies under Rule 419.

[73] See, for example, Release No. 33-8591; Release No. 33-8587; Release No. 33-7393; and Penny Stock Definition for Purposes of Blank Check Rule, Release No. 33-7024 (Oct. 25, 1993) [58 FR 58099].

criterion but otherwise satisfies the registrant requirements of Form S-3 will become eligible to use Form S-3 to register primary offerings of its securities, provided that:

- it has not been a shell company for at least 12 calendar months;[74]
- it has filed information that would be required in a registration statement on Form 10 or Form 20-F, as applicable, to register a class of securities under Section 12 of the Exchange Act;[75] and
- it has been timely reporting for 12 calendar months.[76]

Ordinarily, the information required to be filed would be in a current report on Form 8-K reporting completion of the transaction that caused it to cease being a shell company.[77] In other cases, the information may be filed in a Form 10 or Form 20-F. Consistent with the current registrant eligibility rules of Form S-3 that require at least 12 calendar months of timely reporting, the 12 calendar-month delay under the new rules is intended to provide investors in the former shell company with the benefit of disclosure over a full 12-month period in the newly structured entity prior to its use of Form S-3 for primary securities offerings.

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[74] Similarly, Form S-8 is not available to shell companies or to former shell companies until 60 days after they have ceased being shell companies and have filed information that would be required in a registration statement on Form 10 or Form 20-F, as applicable, to register a class of securities under Section 12 of the Exchange Act. Release No. 33-8587. Unlike the eligibility rules of Form S-8, however, a company must be reporting for at least 12 calendar months before it is eligible under <u>any</u> criteria to use Form S-3. Therefore, instead of the 60-day delay required by Form S-8, it is more appropriate for a shell company to be prohibited from using the new provisions of S-3 and F-3 until at least 12 calendar months after it ceases being a shell company.

[75] This information is collectively described as "Form 10 information." See Instruction 4 to new General Instruction I.B.6(b).

[76] New General Instruction I.B.6(b) of Form S-3 addresses the requirements pertaining to former shell companies.

[77] Items 2.01(f) and 5.01(a)(8) of Form 8-K require a company in a transaction where the company ceases being a shell company to file a current report on Form 8-K containing the information (or identifying the previous filing in which the information is included) that would be required in a registration statement on Form 10 to register a class of securities under Section 12 of the Exchange Act.

Commenters held contrasting opinions of our proposal to exclude shell companies[78] and the requirement that former shell companies may not rely on General Instruction I.B.6. to Form S-3 until at least one year has elapsed since they ceased being shell companies.[79] Because of the limited and less comprehensive public information available regarding shell companies, we are adopting General Instruction I.B.6(b) as proposed to ensure that investors have the benefit of one full year of disclosure once the entity ceases to be a shell company. In this regard, requiring one year of timely reporting puts our treatment of former shell companies on par with the eligibility requirements of any other new company wishing to use Form S-3.[80]

C. Amendments to Form F-3

Form F-3, which was designed to parallel Form S-3,[81] is the equivalent short-form registration form available for use by "foreign private issuers"[82] to register securities

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78 See letters from the ABA and Morrison & Foerster (supporting the exclusion of shell companies) and letter from M. Baum (opposing the exclusion).

79 See letters from the ABA and Morrison & Foerster (supporting the one-year delay) and letters from Feldman Weinstein and Williams Securities (objecting to the one-year delay and contrasting it to the 90-day delay the Commission proposed in Release No. 33-8813 (July 5, 2007) [72 FR 36822] in order for shareholders of former shell companies to resell their securities in reliance on Rule 144). This analogy to Rule 144 is inapposite. A delay of at least 90 days under Rule 144, versus one year under Form S-3, is not unique to shell companies. Form S-3 requires any issuer to have been timely reporting for at least one year, while Rule 144 requires that an issuer be subject to the reporting requirements for at least 90 days before an affiliate of a reporting issuer is able to sell unrestricted securities under the rule.

80 See General Instruction I.A.3. of Form S-3.

81 Integrated Disclosure System for Foreign Private Issuers, Release No. 33-6360 (Nov. 20, 1981) [46 FR 58511], at 7:

> The three forms proposed under the Securities Act roughly parallel proposed Forms S-1, S-2 and S-3 in the domestic integration system, but the foreign system is based on the Form 20-F instead of the Form 10-K and annual report to shareholders as the uniform disclosure package.

82 The term "foreign private issuer" is defined in Rule 405 of the Securities Act to mean any foreign issuer other than a foreign government except an issuer meeting the following conditions:

(1) More than 50 percent of the outstanding voting securities of such issuer are directly or indirectly owned of record by residents of the United States; and

(2) Any of the following:

offerings under the Securities Act. Similar to Form S-3, Form F-3 is available to foreign private issuers that satisfy the form's registrant requirements and at least one of the form's transaction requirements.[83] The Form F-3 registrant requirements are similar to Form S-3 and generally relate to a registrant's reporting history under the Exchange Act.[84] In addition, like the Form S-3 registration statement, Form F-3 limits the ability of registrants to conduct primary offerings on the form unless their public float equals or exceeds a particular threshold.[85]

As with Form S-3, the Commission has attempted to limit the availability of Form F-3 for primary offerings to a class of companies believed to provide a steady stream of corporate disclosure that is broadly disseminated to, and digested by, the marketplace. When the Commission adopted Form F-3 in 1982,[86] it set the public float test for foreign issuers at $300 million in response to public comment recommending that the numerical test for foreign issuers be much greater than for domestic registrants.[87] In 1994, however,

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(i) The majority of the executive officers or directors are United States citizens or residents;

(ii) More than 50 percent of the assets of the issuer are located in the United States; or

(iii) The business of the issuer is administered principally in the United States.

83 General Instruction I. of Form F-3: "Eligibility Requirements for Use of Form F-3."

84 One difference is that, unlike Form S-3, General Instruction I.A.1. of Form F-3 requires that registrants have previously filed at least one annual report on Form 20-F, Form 10-K or, in certain cases, Form 40-F under the Exchange Act. For an explanation of this difference, see Simplification of Registration and Reporting Requirements for Foreign Companies; Safe Harbors for Public Announcements of Unregistered Offerings and Broker-Dealer Research Reports, Release No. 33-7029 (Nov. 3, 1993) [58 FR 60307], at 3; and Simplification of Registration and Reporting Requirements for Foreign Companies; Safe Harbors for Public Announcements of Unregistered Offerings and Broker-Dealer Research Reports, Release No. 33-7053 (Apr. 19, 1994) [59 FR 21644], at 2 (explaining that the requirement was adopted "in order to ensure that information regarding the issuer is available to the market").

85 General Instruction I.B.1. of Form F-3. Note that, unlike Form S-3, the Instruction makes reference to the registrant's "worldwide" public float.

86 Adoption of Foreign Issuer Integrated Disclosure System, Release No. 33-6437 (Nov. 19, 1982) [47 FR 54764].

87 Release No. 33-7029, at 2.

the Commission reduced this threshold to $75 million in order to extend to foreign issuers the benefits of short-form registration "to the same extent available to domestic companies."[88] In explaining its rationale, the Commission stated:

> [Our] experience with foreign issuers, as well as the internationalization of securities markets, indicates that foreign issuers with a public float of $75 million or more have a degree of analyst following in their world-wide markets comparable to similarly-sized domestic companies.[89]

As a result, the Commission believed that expanding Form F-3 eligibility by lowering the float standard to $75 million would give foreign issuers the same capital raising advantages enjoyed by domestic issuers on Form S-3 consistent with investor protection.[90]

In order to maintain the rough equivalency between Form S-3 and Form F-3, which have had the same public float criteria for primary offering eligibility since 1994,[91] we are adopting amendments to Form F-3 that are comparable to our changes to Form S-3. Specifically, new General Instruction I.B.5. to Form F-3 will allow foreign private issuers with less than $75 million in worldwide public float to register primary offerings of their securities on Form F-3, provided:

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88 Release No. 33-7053, at 2. In the same rulemaking, the Commission also reduced the reporting history requirement in Form F-3 from 36 to 12 months to match the eligibility criteria applicable to domestic companies using Form S-3.

89 Release No. 33-7029, at 2.

90 The Commission stated:

> These provisions are part of the ongoing efforts of the Commission to ease the transition of foreign companies into the U.S. disclosure system, enhance the efficiencies of the registration and reporting processes and lower costs of compliance, where consistent with investor protection.

Release No. 33-7053, at 2.

91 The Commission's adoption of the "Securities Offering Reform" amendments in July 2005 is a recent instance where parallel changes were made to Form S-3 and Form F-3. See Release No. 33-8591. For example, the 2005 amendments provided that the ability to conduct an automatic shelf offering under both Form S-3 and Form F-3 is limited to registrants that qualify as "well-known seasoned issuers" under Rule 405 of the Securities Act. We note the minimum public float threshold required to be a well-known seasoned issuer is the same for both Form S-3 and Form F-3.

- they meet the other registrant eligibility conditions for the use of Form F-3;
- the class of securities to be offered is listed and registered on a national securities exchange;
- they do not sell more than the equivalent of one-third of their public float in primary offerings under General Instruction I.B.5. on Form F-3 over any period of 12 calendar months; and
- they are not shell companies and have not been shell companies for at least 12 calendar months before filing the registration statement.

II. Paperwork Reduction Act

A. Background

The new rules and amendments to Forms S-3 and F-3 contain "collection of information" requirements within the meaning of the Paperwork Reduction Act of 1995.[92] We published a notice requesting comment on the collection of information requirements in the Proposing Release and submitted these to the Office of Management and Budget for review and approval in accordance with the Paperwork Reduction Act.[93] The titles for the collection of information are:

"Form S-3" (OMB Control No. 3235-0073);

"Form F-3" (OMB Control No. 3235-0256);

"Form S-1"[94] (OMB Control No. 3235-0065); and

"Form F-1"[95] (OMB Control No. 3235-0258).

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[92] 44 U.S.C. 3501 et seq.

[93] 44 U.S.C. 3507(d) and 5 CFR 1320.11.

[94] Because our amendments to Form S-3 and Form F-3 are anticipated to affect the annual number of Forms S-1 and Forms F-1 filed, we are including them in the titles of information collections even though we are not amending the substance of the collection in this release. Note that the Proposing Release also included our estimates with respect to Form SB-2 (OMB Control No. 3235-0418), in addition to Forms S-3, F-3, S-1 and F-1. However, Release No. 33-8876, which was adopted by the Commission on November 15, 2007, will eliminate Form SB-2 when it becomes effective. Therefore, our revised Paperwork Reduction Act estimates do not include new estimates for Form SB-2. As discussed in greater detail below, we have taken the elimination of Form SB-2 into consideration for purposes of revising our estimates of the burden associated with Forms S-3, S-1 and F-1.

We adopted existing Forms S-3, S-1, F-3 and F-1 pursuant to the Securities Act. These forms set forth the disclosure requirements for registration statements that are prepared by eligible issuers to provide investors with the information they need to make informed investment decisions in registered offerings.

Our amendments to Forms S-3 and F-3 are intended to allow issuers that are ineligible to use Forms S-3 and F-3 for primary offerings because they do not meet the forms' public float requirements to nevertheless register a limited amount of securities in primary offerings on Form S-3 or Form F-3, as applicable, so long as they are not shell companies, they meet the other eligibility requirements of the forms, and they have at least one class of common equity securities listed and registered on a national securities exchange.

The hours and costs associated with preparing disclosure, filing forms, and retaining records constitute reporting and cost burdens imposed by the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid control number.

The information collection requirements related to registration statements on Forms S-3, S-1, F-3 and F-1 are mandatory. There is no mandatory retention period for the information disclosed, and the information disclosed would be made publicly available on the EDGAR filing system.

B. Summary of Information Collections

Because the amendments that we are adopting in this release pertain principally to Forms S-3 and F-3 eligibility, rather than to the disclosure required by these forms, we do not believe that the amendments will impose any new recordkeeping or information

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[95] Id.

collection requirements, other than those that will be de minimis in nature.[96] On a per-response basis, therefore, the amendments should not increase or decrease existing disclosure burdens for Form S-3 or Form F-3. However, because we expect that many companies newly eligible for primary offerings on Forms S-3 and F-3 as a result of these amendments will choose to file short-form Form S-3 and Form F-3 registration statements in lieu of Forms S-1 or F-1, as applicable, we believe there will be an aggregate decrease in the disclosure burdens associated with Forms S-1 and F-1 and an increase in the disclosure burdens associated with Forms S-3 and F-3. The shift in aggregate disclosure burden among these forms will be due entirely to the change in the number of annual responses expected with respect to each form, as companies previously ineligible to use Form S-3 and Form F-3 switch to these forms for their public offerings and away from Forms S-1 and F-1.

In addition, because of the anticipated benefits to issuers associated with Forms S-3 and F-3, in particular the lower costs of preparing and filing the registration statements and the ability to make delayed and continuous offerings in response to changing market conditions, we think that this will increase the demand for, and lead to more, company filings on Forms S-3 and F-3 than would otherwise have been made on Forms S-1 and F-1. That is, we think that the opportunity for capital raising will be more

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[96] Instruction 7 to new General Instruction I.B.6. of Form S-3 and Instruction 7 to new General Instruction I.B.5. of Form F-3 require registrants to disclose in each prospectus filed with the Commission their updated calculation of public float and the amount of securities offered on Form S-3 or F-3, as applicable, pursuant to this instruction during the prior 12 calendar months. Although this is a new disclosure requirement for Forms S-3 and F-3, we think that the registrant's determination of its public float and the amount of securities offered in the prior twelve-month period should be readily accessible and easily calculable. In addition, we note that registrants are already required to ascertain their public float at the time they file a registration statement for a primary offering on Form S-3 or Form F-3. See General Instruction I.B.1. of Form S-3 and General Instruction I.B.1. of Form F-3. As such, we anticipate that the total time, effort and financial resources to generate and maintain this information will be insignificant for each registrant.

robust for many companies because of the availability of shelf registration on Forms S-3 and F-3. We also anticipate that many companies newly eligible to use Forms S-3 or F-3 will choose to offer their securities directly to the public through registration on these registration forms instead of through private placements and, therefore, we expect comparatively more Forms S-3 and F-3 registration statements to be filed as companies forego private offerings in favor of the public markets.

In order to provide an estimate of the change in the collection of information burden for purposes of the Paperwork Reduction Act, our assumption is that the amendments to Forms S-3 and F-3 will result in an overall increase in the number of such forms filed annually by eligible companies and an overall decrease in the number of Forms S-1 and Forms F-1 filed annually by these companies. As discussed, however, we do not expect that the incremental increase in the number of all Forms S-3 and F-3 filed will be roughly equal to the incremental decrease in the number of Forms S-1 and Forms F-1 filed, because our assumption is that the advantages of shelf registration on Form S-3 and Form F-3 will encourage financings on these forms that would otherwise have been carried out through exempt offerings or perhaps not at all. Therefore, we believe the amendments will result in a net increase in the annual aggregate number of filings on all Forms S-3, S-1, F-3 and F-1 taken together, since the increased number of Form S-3 and F-3 filings should exceed the decreased number of Form S-1 and F-1 filings. Accordingly, we believe the overall net decrease in disclosure burden that should result from companies changing to the more streamlined Forms S-3 and F-3 will be offset to some extent by newly eligible companies filing Forms S-3 and F-3 more frequently than they did Forms S-1 or F-1. However, this offset could be lessened in part by the one-third cap on the amount of securities that eligible companies may sell on Form S-3 and

Form F-3 in any period of 12 calendar months pursuant to the new form eligibility rules.[97] Companies that require more capital but are prohibited by this one-third cap from using Form S-3 and Form F-3 for primary offerings may, as a result, continue to conduct some offerings on Forms S-1 or F-1 or through the private markets even though Forms S-3 and F-3 are preferable.

C. Summary of Comments and Revisions to Amendments

None of the commenters addressed our request for comment on the Paperwork Reduction Act analysis contained in the Proposing Release. We are nevertheless revising our Paperwork Reduction Act estimates in light of certain modifications we have made to the final rules as opposed to the proposal.

As proposed, new General Instruction I.B.6. of Form S-3 and new General Instruction I.B.5. of Form F-3 would have limited the amount of securities eligible companies could sell in accordance with these provisions to no more than the equivalent of 20% of their public float over any period of 12 calendar months. In consideration of commenters who were concerned that capping issuers at 20% of the value of their public float every twelve months would limit the usefulness of these new rules, we have decided to increase the twelve-month offering threshold to one-third of an issuer's public float. In light of this increase, however, we are adopting a further condition to eligibility under new General Instruction I.B.6. of Form S-3 and new General Instruction I.B.5. of Form F-3 that the issuer must have at least one class of common equity securities listed and

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[97] As previously discussed, new General Instructions I.B.6. of Form S-3 and I.B.5. of Form F-3 prohibit registrants from selling more than the equivalent of one-third of their public float in any period of 12-calendar months.

registered on a national securities exchange. This additional restriction should help to minimize the potential abuses arising from expanded shelf registration because the securities exchanges, through their listing rules and procedures, as well as other requirements, provide an additional measure of protection for investors.

D. Revised Paperwork Reduction Act Burden Estimates

As discussed in Section II.C. above, we are revising our Paperwork Reduction Act burden estimates that were originally submitted to the Office of Management and Budget. Our revised estimates reflect the changes that we have made to the final rules as compared to the proposal.

For purposes of the Paperwork Reduction Act, we now estimate the annual decrease in the paperwork burden for companies to comply with our collection of information requirements to be approximately 10,375 hours of in-house company personnel time and to be approximately $12,450,000 for the services of outside professionals.[98] These estimates include the time and the cost of preparing and reviewing disclosure, filing documents and retaining records. Our methodologies for deriving the above estimates are discussed below.

Our estimates represent the burden for all issuers, both large and small. As mentioned, however, the estimated decreases are wholly attributable to our assumptions, discussed in Section II.B. above, about how the amendments will influence the behavior of certain issuers who were formerly ineligible to conduct primary offerings on Forms S-3 and F-3. These issuers are non-shell companies who satisfy the registrant eligibility

[98] For administrative convenience, the totals related to the paperwork burden hours have been rounded to the nearest whole number and the cost totals have been rounded to the nearest thousand.

requirements of Form S-3[99] or Form F-3,[100] as applicable, have at least one class of common equity securities listed and registered on a national securities exchange, and had a public float of less than $75 million at the end of their last fiscal year. In all, we estimate that there were approximately 1,400 such companies at the end of calendar year 2006 and that they filed a total of 66 registration statements on Forms S-1, SB-2[101] and F-1 during the twelve months ending December 31, 2006.[102] To determine the effect of our amendments on the overall paperwork burden, we have assumed that these filings on Forms S-1, SB-2[103] and F-1 would be made instead on Form S-3 or Form F-3, as applicable, to the extent that the issuers would not be limited by the one-third cap on the amount of securities they may sell in any period of 12 calendar months under the new rules. Therefore, we assume that the Forms S-1 and F-1 filed by the subject companies will decrease from the number filed in 2006, but because of the one-third cap on sales, will not decrease to 0.[104] Instead, we believe that some Forms S-1 and F-1 will continue

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99 See n. 37.

100 See n. 83.

101 As mentioned, the Commission voted to eliminate Form SB-2 on November 15, 2007. Release No. 33-8876. However, because some of the companies who filed on Form SB-2 in 2006 will become eligible to use Form S-3 under the new amendments to the form, we factor these Form SB-2 filings into our estimate of the number of additional Forms S-3 that will be filed in 2008 as a result of the rule change.

102 The total of 66 filings is comprised of 37 Forms S-1; 26 Forms SB-2; and 3 Forms F-1.

103 See n. 101.

104 Because it has been eliminated, the number of new Forms SB-2 will, in fact, decrease to 0 after Release No. 33-8876 goes into effect. Therefore, companies that previously filed Forms SB-2, but who are now eligible to use Form S-3 under new General Instruction I.B.6. of the form, would not be able to fall back to Form SB-2 in the event that they exceed the one-third cap on Form S-3. Instead, to the extent they wanted to conduct an additional registered public offering, they would likely have to file on Form S-1. To reflect this, we have taken the number of 2006 Form SB-2 filings by companies that we estimate will become eligible on Form S-3 under the new rules and added this to the number of Forms S-1 filed in 2006 by companies who qualify to use Form S-3 for primary offerings under the new rules. This allows us to estimate how many total Forms S-1 will be filed by domestic companies that exceed the one-third cap but still wish to conduct registered public offerings. So, for purposes of

to be filed annually by these companies. To reflect this, we have taken the number of Forms S-1 and F-1 that were filed by these companies in calendar year 2006 and decreased this number by 90%[105] for each form, for a total decrease of 60 filings.[106] Therefore, we assume that approximately 60 fewer Forms S-1 and F-1 will be filed by all issuers annually as a result of the new amendments. The actual number could be more or less depending on various factors, including future market conditions.

Furthermore, we believe that the 1,400 companies that we estimate will be affected by the rule change would have conducted more registered securities offerings had they been able to use Forms S-3 and F-3, because of the benefits of forward incorporation and the ability to utilize shelf registration to maximize market opportunities. We assume that the inability of these companies to utilize Forms S-3 and F-3 limited their capacity to access the public securities markets and, because of the cost and lack of flexibility associated with Forms S-1, SB-2 and F-1, they either did not file registration statements on Forms S-1 SB-2 or F-1, or were limited in the number that they filed. We therefore believe that the annual number of responses on Forms S-3 and F-3 for purposes of the Paperwork Reduction Act will increase by an increment greater than simply the total of 60 fewer registration statements on Forms S-1 and F-1 that we

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our baseline assumptions, the number of Forms S-1 filed in 2006 by companies who will become eligible to use Form S-3 under the new rules will include the number of Forms SB-2 filed in 2006 by qualifying companies (26) and will therefore total 63 filings (37 Forms S-1 plus 26 Forms SB-2).

105 In the Proposing Release, this decrease was 85% for each form but has been raised to 90% in light of the 12-month offering restriction on sales being raised from 20% to one-third of a company's public float. In other words, because the ceiling has been raised, eligible companies will be able to expand the size and/or frequency of their offerings on Forms S-3 and F-3 and, consequently, will have less need to file alternate registration forms. Therefore, the number of filings on these forms should decrease even more than was predicted in the Proposing Release.

106 This number deducts 90% from the totals for each of the registration forms, as follows: Form S-1 (90% of 63, rounded up, equals 57) and Form F-1 (90% of 3, rounded up, equals 3). Adding these together, the combined reduction totals 60 filings.

estimate will be filed in future years by the 1,400 companies who would qualify for primary offerings on Forms S-3 and F-3 as a result of our amendments. We further assume that this increase in Forms S-3 and F-3 will be mitigated to some degree by the one-third cap on securities sold in any period of 12 calendar months under the new rules, which may limit the frequency and volume of additional securities offerings on Form S-3 and Form F-3. To reflect this, we have taken the total of 60 fewer Forms S-1 and F-1 that we think will be filed by these companies in future years as a result of the amendments (because of the availability of Forms S-3 and F-3) and increased this number by 15%[107] for each form, for a total increase of 70 filings.[108] Therefore, we assume that approximately 70 additional Forms S-3 and F-3 will be filed annually over and above the number of total Forms S-3 and F-3 filed by all issuers, large and small, as a result of the new amendments. The actual number could be more or less depending on various factors, including future market conditions.

To calculate the total effect of the amendments on the overall compliance burden for all issuers, large and small, we subtracted the burden associated with the 60 fewer Forms S-1 and F-1 registration statements that we expect will be filed annually in the future and added the burden associated with our estimate of 70 additional Forms S-3 and F-3 filed annually as a result of the amendments. We used current Office of

107 In the Proposing Release, this increase was 10% for each form but has been raised to 15% in light of the 12-month offering restriction on sales being raised from 20% to one-third of a company's public float. That is, because the ceiling has been raised, eligible companies will be able to conduct somewhat larger and/or more frequent offerings on Form S-3 and F-3.

108 This number adds a 15% premium to the individual totals for each of the registration forms, as follows: Form S-1 (15% of 57, rounded up, equals 9) and Form F-1 (15% of 3, rounded up, equals 1). The sum of these increases, which is equal to 10, is then added to the total of 60 Forms S-1 and F-1 filed by the subject companies in 2006 that we believe will be filed on Forms S-3 and F-3 by these companies in future years. The total is an estimated increase of 70 Forms S-3 and F-3 (comprised of 66 additional Forms S-3 and four additional Forms F-3).

Management and Budget estimates in our calculation of the hours and cost burden associated with preparing, reviewing and filing each of these forms.

Consistent with current Office of Management and Budget estimates and recent Commission rulemaking,[109] we estimate that 25% of the burden of preparation of Forms S-3, S-1, F-3 and F-1 is carried by the company internally and that 75% of the burden is carried by outside professionals retained by the issuer at an average cost of $400 per hour.[110] The portion of the burden carried by outside professionals is reflected as a cost, while the portion of the burden carried by the company internally is reflected in hours.

The table below illustrates our estimates concerning the incremental annual compliance burden in the collection of information in hours and cost for Forms S-3, S-1, F-3 and F-1 as a result of these amendments.

Form	Estimated Change in Annual Responses	Hours/Form[111]	Incremental Burden	25% Issuer	75% Professional	$400/hr Professional Cost
	(A)	(B)	(C)=(A)*(B)	(D)=(C)*0.25	(E)=(C)*0.75	(F)=(E)*$400
S-3	66	459	30,294	7,573.50	22,720.50	$9,088,200
S-1	(57)	1,176	(67,032)	(16,758)	(50,274)	($20,109,600)
F-3	4	166	664	166	498	$199,200
F-1	(3)	1,809	(5,427)	(1,356.75)	(4,070.25)	($1,628,100)
Total			(41,501)	(10,375.25)	(31,125.75)	($12,450,300)

III. Cost-Benefit Analysis

A. Summary of Amendments

We are adopting revisions to the transaction eligibility requirements of Forms S-3 and F-3 that will allow companies to take advantage of these forms for primary

[109] For discussions of the relative burden of preparation of registration statements under the Securities Act allocated between issuers internally and their outside advisers, see Executive Compensation and Related Person Disclosure, Release No. 33-8732A (Aug. 29, 2006) [71 FR 56225] and Release No. 33-8591.

[110] In connection with other recent rulemakings, we have had discussions with several private law firms to estimate an hourly rate of $400 as the average cost of outside professionals that assist issuers in preparing disclosures and conducting registered offerings.

[111] This reflects current Office of Management and Budget estimates.

offerings regardless of the size of their public float. Whereas secondary offerings may be registered on Forms S-3 and F-3 irrespective of float, the instructions to Forms S-3 and F-3 have, before now, restricted the use of these forms for primary securities offerings to companies that have a minimum of $75 million in public float calculated within 60 days prior to the date the registration statement is filed. To expand the availability of Forms S-3 and F-3 for primary offerings to more companies, we are adopting revisions to these forms that allow companies with less than $75 million in public float to register primary offerings of their securities on Forms S-3 and F-3, provided:

- they meet the other registrant eligibility conditions for the use of Form S-3 or Form F-3, as applicable;
- they have at least one class of common equity securities listed and registered on a national securities exchange;
- they do not sell more than the equivalent of one-third of their public float in primary offerings under General Instruction I.B.6. of Form S-3 or under General Instruction I.B.5. of Form F-3, as applicable, over the previous period of 12 calendar months; and
- they are not shell companies and have not been shell companies for at least 12 calendar months before filing the registration statement.

B. Benefits

The ability to conduct primary offerings on Forms S-3 and F-3 confers significant advantages on eligible companies in terms of cost savings and capital formation. The time required to prepare Form S-3 or Form F-3 is significantly lower than that required for Forms S-1 and F-1.[112] This difference is magnified by the fact that Form S-3 and Form F-3, unlike Forms S-1 and F-1, permit registrants to forward incorporate required

information by reference to disclosure in their Exchange Act filings. Therefore, Form S-3 and Form F-3 registration statements can be automatically updated. This allows such companies to avoid additional delays and interruptions in the offering process and can reduce the costs associated with preparing and filing post-effective amendments to the registration statement.

Overall, we anticipate that the expansion of Form S-3 and Form F-3 eligibility will decrease the aggregate costs of complying with the Commission's rules by allowing companies previously eligible to use only Form S-1 or Form F-1 the use of short-form registration on Form S-3 or Form F-3, as applicable. Using our estimates prepared for purposes of the Paperwork Reduction Act, we estimate that under the amendments the annual decrease in the compliance burden for companies to comply with our collection of information requirements to be approximately 10,375 hours of in-house company personnel time (valued at $1,816,000[113]) and to be approximately $12,450,000 for the services of outside professionals.

In addition to the benefits associated with the estimated reduction in the time required to prepare Forms S-3 and F-3 in lieu of Forms S-1 and F-1, and a company's ability to forward incorporate prospectus disclosure by reference, Forms S-3 and F-3 provide substantial flexibility to companies raising money in the capital markets, which ultimately may reduce the cost of capital for such companies and facilitate their access to additional sources of investment. Companies that are eligible to use Form S-3 or Form

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112 The Office of Management and Budget currently estimates the time required to prepare Form S-3 and Form F-3 as 459 hours and 166 hours, respectively. This is contrasted with current estimates for Form S-1 and F-1 as 1,176 hours and 638 hours, respectively.

113 Consistent with recent rulemaking releases, we estimate the value of work performed by the company internally at a cost of $175 per hour.

F-3 for primary offerings are able to conduct delayed and continuous registered offerings under Rule 415 of the Securities Act, which provides considerable flexibility in accessing the public securities markets from time to time in response to changes in the market and other factors. Eligible companies are permitted to register securities prior to planning any offering and, once the registration statement is effective, offer these securities in one or more tranches without waiting for further Commission action. By having more control over the timing of their offerings, these companies can take advantage of desired market conditions, thus allowing them to raise capital on more favorable terms (such as pricing) or to obtain lower interest rates on debt. In addition, they can vary certain terms of the securities being offered upon short notice, enabling them to more efficiently meet the competitive requirements of the public securities markets. We believe that extending shelf registration benefits to more companies, in the manner we have chosen, will facilitate the capital-raising efforts of smaller public companies who currently have fewer financing options than their larger counterparts.[114] Consequently, we anticipate that the amendments will result in smaller issuers raising more capital through the public markets rather than through exempt offerings conducted in the domestic and offshore markets. Investors in these companies will benefit by such companies' improved access to capital on more favorable terms. In particular, investors in smaller public companies may be less subject to the risk of dilution in the value of their shares if the companies in which they invest are able to meet more of their capital needs in the public markets. By selling into the public markets, these companies may be able to avoid the substantial pricing

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114 See generally, Chaplinsky and Haushalter, Financing Under Extreme Uncertainty: Contract Terms and Returns to Private Investments in Public Equity.

discounts that private investors often demand to compensate them for the relative illiquidity of the restricted shares they are purchasing.[115]

The public registration of securities also provides additional benefits to investors over alternative forms of capital raising. To the extent that the amendments lead to an increase in the use of registered offerings through the use of Form S-3 and Form F-3 as a source of financing and a resulting decrease in private market alternatives, investors in those offerings will benefit from the additional investor protections associated with public registration.

Notwithstanding our belief regarding the beneficial effects of the amendments, however, any resulting benefits that accrue to companies and their investors as a result of these amendments will depend on future market conditions and circumstances unique to each company.

C. Costs

As discussed in Section B. above, we do not expect that the amendments to Forms S-3 and F-3 will materially increase companies' overall compliance costs associated with preparing, reviewing and filing these registration statements, although there may be some additional costs incurred by companies to monitor their ongoing compliance with the one-third sales cap imposed by the amendments. At the same time, the amendments could result in certain additional market costs that are difficult to quantify. For example, it has been suggested that there are risks inherent in allowing smaller public companies to take advantage of shelf primary offerings on Forms S-3 and F-3. Because this would permit such companies to avail themselves of periodic takedowns without further

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[115] Id.

Commission action or prior staff review, concerns have been raised about the increased potential for fraud and market manipulation.[116] Although the Commission would retain the authority to review registration statements before declaring them effective, individual takedowns are not subject to prior staff review. Under the current rules, if issuers are instead using Forms S-1 or F-1, they would be required to file separate registration statements for each new offering, which would be subject to selective staff review before going effective. If these issuers can instead conduct shelf offerings on Form S-3 and Form F-3, there may be some loss of the deterrent effect on the companies' disclosures in connection with each takedown off the shelf because of the lack of prior staff review. In addition, the short time horizon of shelf offerings may also reduce the time that participating underwriters have to apply their independent scrutiny and judgment to an issuer's prospectus disclosure. We have also considered the effect the amendments may have on market demand for the securities of smaller public companies offered on Form S-3 and Form F-3. If there is a perception that smaller public company securities offered through shelf registration statements are more prone to abuse because of the lack of involvement by the Commission staff, this may erode investor confidence in these offerings generally. This could, in turn, make it more difficult for these companies to raise capital and significantly negate some of the benefits of the rule.

While we recognize that extending the benefits of shelf registration to an expanded group of companies will limit the staff's direct involvement in takedowns of securities off the shelf and could therefore pose some risk to investors, we believe that the risks are justified by the benefits that we anticipate will accrue by facilitating the capital

[116] See n. 34.

formation efforts of smaller public companies. As we have discussed elsewhere in this release, we believe these risks have been mitigated by the emergence of the Internet which, in combination with the Commission's EDGAR database, has greatly enhanced the ability of the market to readily digest and assimilate public company information.

However, in order minimize risks to investors, the amendments include certain restrictions intended to moderate the impact of expanding Forms S-3 and F-3 eligibility. These are:

- excluding shell companies from eligibility;
- requiring that companies have at least one class of common equity securities listed and registered on a national securities exchange; and
- imposing a cap of one-third of a company's public float on the amount of securities that can be sold into the market in any period of 12 calendar months by eligible issuers on Forms S-3 and F-3.

We note, however, that monitoring compliance with the one-third cap may be difficult given the lack of staff review before a shelf offering.

IV. Consideration of Promotion of Efficiency, Competition and Capital Formation

Securities Act Section 2(b)[117] requires us, when engaging in rulemaking where we are required to consider or determine whether an action is necessary or appropriate in the public interest, to consider, in addition to the protection of investors, whether the action will promote efficiency, competition, and capital formation.

We expect the amendments will increase efficiency and enhance capital formation by facilitating the ability of smaller public companies to access the capital markets consistent with investor protection. Prior to these amendments, many companies have

[117] 15 U.S.C. 77b(b).

been ineligible to use Forms S-3 and F-3 to register primary offerings of their securities because the size of their public float did not satisfy the $75 million threshold required by these forms. Consequently, they have been unable to take advantage of the important benefits enjoyed by eligible companies, the most significant of which is the ability to conduct primary offerings on a delayed and continuous basis. The ability to register securities that may be taken off the shelf as needed, without prior staff review, provides a powerful tool for capital formation because it allows companies the flexibility to take advantage of desired market conditions efficiently and upon short notice. Companies may be able to raise capital more cheaply, quickly, and on more favorable terms than would otherwise be the case. By selling into the public markets, these companies may be able to avoid the substantial pricing discounts that private investors often demand to compensate them, in part, for the relative illiquidity of the restricted shares they are purchasing.[118]

We therefore believe that extending shelf registration benefits to more companies in the manner that we have chosen will facilitate the capital-raising efforts of smaller public companies who currently have fewer financing options than their larger counterparts.[119] Consequently, we anticipate that the amendments will lead to efficiencies in capital formation, as smaller issuers will be able to raise more capital through the public markets rather than through exempt offerings conducted in the domestic and offshore markets.

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[118] See n. 115.

[119] See n. 114.

At the same time, we have also considered the potential that the amendments might result in certain additional market costs that could limit any efficiencies realized. For example, it has been suggested that extending the benefits of shelf registration to an expanded group of companies will limit the staff's direct involvement in takedowns of securities off the shelf and could therefore pose some risk to investors. In addition, the short time horizon of shelf offerings also may reduce the time that participating underwriters have to apply their independent scrutiny and judgment to an issuer's prospectus disclosure. By reducing this staff and underwriter oversight, there is a risk that these securities offerings may be more vulnerable to abuses. Moreover, because companies with a smaller market capitalization, as a group, have a comparatively smaller market following than larger, well-seasoned issuers and are more thinly traded, smaller companies' securities may be more vulnerable to potential manipulative practices. We also have considered the effect the amendments may have on market demand for the securities of smaller public companies offered on Form S-3 and Form F-3. If there is a perception that smaller public company securities offered through shelf registration statements are more prone to abuse because of the lack of prior involvement by the Commission staff, this may erode investor confidence in these offerings generally. This could, in turn, make it more difficult for these companies to raise capital and significantly negate the benefits of the rule.

The effects of the amendments on competition are difficult to predict, but it is possible that making it easier for smaller public issuers to access the domestic public securities markets will lead to a reallocation of capital, as companies that previously had little choice but to offer their securities in private offerings or in offshore markets because of their Form S-3 and Form F-3 ineligibility will now find it cost-effective to offer their

securities domestically in primary offerings on Form S-3 and Form F-3. If such a reallocation occurs, it may also impact securities market professionals, such as finders, brokers and agents, who specialize in facilitating private securities offerings. The demand for these services may shift to the public markets, where other professionals, such as investment banks that underwrite public offerings, have a comparative advantage.

V. Final Regulatory Flexibility Act Analysis

This Final Regulatory Flexibility Act Analysis has been prepared in accordance with 5 U.S.C. 603. It relates to revisions to the eligibility requirements for the use of registration statements on Forms S-3 and F-3 to register primary offerings of securities.

A. Need for the Amendments

Prior to these amendments, many smaller public companies have been ineligible to use Forms S-3 and F-3 to register primary offerings of their securities because the size of their public float did not satisfy the $75 million threshold required by these forms. Consequently, they have been unable to take advantage of the important benefits enjoyed by eligible companies, the most significant of which is the ability to conduct primary offerings on a delayed and continuous basis. The ability to register securities that may be taken off the shelf as needed, without prior staff review, provides a powerful tool for capital formation because it allows companies the flexibility to take advantage of desired market conditions efficiently and on short notice. As such, eligible companies may be able to raise capital more cheaply, quickly, and on more favorable terms than would otherwise be the case. Without this source of financing, smaller public companies that are not eligible to register primary offerings on Form S-3 or Form F-3 currently have fewer, and less favorable, financing options than their larger Form S-3 and F-3-eligible counterparts.

B. Significant Issues Raised by Public Comment

In the Proposing Release, we requested comment on any aspect of the Initial Regulatory Flexibility Act Analysis, including the number of small entities that would be affected by the proposals, and both the qualitative and quantitative nature of the impact. Several commenters supported the proposal because they believed it would benefit smaller public companies, but did not provide any specific comments on the Initial Regulatory Flexibility Act Analysis.

C. Small Entities Subject to the Amendments

The Regulatory Flexibility Act defines "small entity" to mean "small business," "small organization," or "small governmental jurisdiction."[120] The Commission's rules define "small business" and "small organization" for purposes of the Regulatory Flexibility Act for each of the types of entities regulated by the Commission.[121] Roughly speaking, a "small business" and "small organization," when used with reference to an issuer other than an investment company, means an issuer with total assets of $5 million or less on the last day of its most recent fiscal year. We estimate that there are approximately 1,100 issuers, other than investment companies, that may be considered reporting small entities.[122]

The amendments will affect small entities that:

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[120] 5 U.S.C. 601(6).

[121] Rules 157 under the Securities Act [17 CFR 230.157], 0-10 under the Exchange Act [17 CFR 240.0-10] and 0-10 under the Investment Company Act [17 CFR 270.0-10] contain the applicable definitions.

[122] The estimated number of reporting small entities is based on 2007 data, including the Commission's EDGAR database and Thomson Financial's Worldscope database. See also Revisions to Rule 144 and Rule 145 to Shorten Holding Period for Affiliates and Non-Affiliates, Release No. 33-8813 (June 20, 2007) [72 FR 36822, 36841-36842]. This represents an update from the number of reporting small entities estimated in prior rulemakings. See, for example, Executive Compensation and Related Disclosure, Release No. 33-8732A (Aug. 29, 2006) [71 FR 53158] (in which the Commission's estimated a total of 2,500 small entities, other than investment companies).

- are not shell companies;
- have at least one class of common equity securities listed and registered on a national securities exchange; and
- satisfy the registrant eligibility requirements for the use of Form S-3 or Form F-3, which generally pertain to a company's reporting history under the Exchange Act.[123]

Based on these registrant eligibility requirements, we estimate that there are approximately 115 to 350 small entities that will be affected by the amendments and therefore will become eligible to use Form S-3 or Form F-3 for primary securities offerings.[124]

D. Reporting, Recordkeeping and Other Compliance Requirements

Because Forms S-3 and F-3 are abbreviated registration forms that can be updated automatically through incorporation by reference of a registrant's Exchange Act filings, we believe use of the forms by eligible small entities will decrease their existing compliance burden. Because the amendments have little effect on the information disclosure requirements of Form S-3 or Form F-3,[125] we do not believe that the costs of complying with the amendments for small entities will be disproportionate to that of large entities.[126] We recognize, however, that there will be some additional costs associated

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123 See n. 37 and n. 83.

124 The burden estimates for small entities are presented as a range representing the minimum and maximum number of small entities that we estimate would currently qualify for eligibility under either General Instruction I.B.6. of Form S-3 or General Instruction I.B.5. of Form F-3, as applicable, based on data available to us.

125 See n. 96. Instruction 7 to new General Instruction I.B.6. of Form S-3 and Instruction 7 to new General Instruction I.B.5. of Form F-3 require disclosure of the registrant's updated calculation of public float and the amount of securities offered on Form S-3 or F-3, as applicable, pursuant to this instruction during the prior 12 calendar months, but we believe any burden associated with this requirement will be minimal.

126 It should be noted, however, that General Instruction II.C. of Form S-3 currently requires:

> . . . smaller reporting compan[ies] (as defined in Rule 405 of the Securities Act [17 CFR 230.405]) that [are] eligible to use Form S-3 shall use the disclosure items in Regulation S-K [17

with an issuer's need to continually monitor its compliance with the one-third cap on sales in any period of 12 calendar months, but we believe that any such costs will be insignificant.

For purposes of the Paperwork Reduction Act, we estimate the annual decrease in the paperwork burden for small entities to comply with our collection of information requirements to be approximately between 3,843 and 14,168 hours of in-house company personnel time (valued between $673,000 to 2,480,000[127]) and to be approximately between $4,612,000 and $17,001,000 for the services of outside professionals.

E. Agency Action to Minimize Effect on Small Entities

The Regulatory Flexibility Act directs us to consider significant alternatives that would accomplish the stated objectives, while minimizing any significant adverse impact on small entities. In connection with the amendments, the Regulatory Flexibility Act requires that we consider the following alternatives:

1. establishing different compliance or reporting requirements which take into account the resources available to smaller entities;
2. the clarification, consolidation or simplification of disclosure for small entities;
3. use of performance standards rather than design standards; and
4. exempting smaller entities from coverage of the disclosure requirements, or any part thereof.

CFR 229.10 et seq.] with specific attention to the subparagraph describing scaled disclosure, if any. Smaller reporting companies may provide the financial information called for by Item 310 of Regulation S-K in lieu of the financial information called for by Item 11 in this form.

Release No. 33-8876. Because such scaled disclosure requirements generally allow scaled disclosure for smaller reporting companies, small entities that file on Form S-3 may have a comparatively lesser compliance burden overall than larger issuers.

[127] See n. 113.

Of these alternatives, only the last appears germane to these amendments. Alternative 3 is not applicable, as the distinction between performance standards and design standards has no bearing on the amendments. Alternatives 1 and 2, because they pertain to establishing different or simplified reporting requirements for smaller entities, also would not seem helpful in this instance because our amendments are already expected to reduce the compliance burden on eligible smaller entities. Regarding Alternatives 1, 2 and 4, we considered relaxing the transaction eligibility requirements for Forms S-3 and F-3 to a greater degree than we are adopting, which would have the effect of further reducing the compliance burden among smaller entities by making more entities eligible for short-form disclosure. As we stated, however, we decline at this time to adopt a less restrictive eligibility requirement. We believe at this time that imposing the one-third cap on the amount of securities that smaller public companies listed on exchanges may sell pursuant to primary offerings on Forms S-3 and F-3, as described, will help to facilitate capital formation through the securities markets consistent with our primary objective of investor protection.

VI. Statutory Authority and Text of the Amendments

The amendments described in this release are being adopted under the authority set forth in Sections 6, 7, 8, 10 and 19(a) of the Securities Act, as amended.

List of Subjects

17 CFR Parts 230 and 239

Reporting and recordkeeping requirements, Securities.

For the reasons set out in the preamble, the Commission amends title 17, chapter II, of the Code of Federal Regulations as follows:

PART 230 – GENERAL RULES AND REGULATIONS, SECURITIES ACT OF 1933

1. The authority citation for part 230 continues to read in part as follows:

Authority: 15 U.S.C. 77b, 77c, 77d, 77f, 77g, 77h, 77j, 77r, 77s, 77z-3, 77sss, 78c, 78d, 78j, 78l, 78m, 78n, 78o, 78t, 78w, 78ll(d), 78mm, 80a-8, 80a-24, 80a-28, 80a-29, 80a-30, and 80a-37, unless otherwise noted.

* * * * *

2. Amend §230.401 by:

a. in paragraph (g)(1), revising the cite "paragraph (g)(2)" to read "paragraphs (g)(2) and (g)(3)"; and

b. adding paragraph (g)(3).

The addition reads as follows:

§230.401 Requirements as to proper form.

* * * * *

(g) * * *

(3) Violations of General Instruction I.B.6. of Form S-3 or General Instruction I.B.5. of Form F-3 will also violate the requirements as to proper form under this section notwithstanding that the registration statement may have been declared effective previously.

PART 239 – FORMS PRESCRIBED UNDER THE SECURITIES ACT OF 1933

3. The authority citation for part 239 continues to read in part as follows:

Authority: 15 U.S.C. 77f, 77g, 77h, 77j, 77s, 77z-2, 77z-3, 77sss, 78c, 78l, 78m, 78n, 78o(d), 78u-5, 78w(a), 78ll, 77mm, 80a-2(a), 80a-3, 80a-8, 80a-9, 80a-10, 80a-13, 80a-24, 80a-26, 80a-29, 80a-30, and 80a-37, unless otherwise noted.

* * * * *

4. Amend Form S-3 (referenced in §239.13) by adding General Instruction I.B.6. to read as follows:

Note -The text of Form S-3 does not, and this amendment will not, appear in the Code of Federal Regulations.

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

* * * * *

GENERAL INSTRUCTIONS

I. Eligibility Requirements for Use of Form S-3 * * *

B. Transaction Requirements. * * *

6. Limited Primary Offerings by Certain Other Registrants. Securities to be offered for cash by or on behalf of a registrant; provided that:

(a) the aggregate market value of securities sold by or on behalf of the registrant pursuant to this Instruction I.B.6. during the period of 12 calendar months immediately prior to, and including, the sale is no more than one-third of the aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant;

(b) the registrant is not a shell company (as defined in §230.405 of this chapter) and has not been a shell company for at least 12 calendar months previously and if it has been a shell company at any time previously, has filed current Form 10 information with the Commission at least 12 calendar months previously reflecting its status as an entity that is not a shell company; and

(c) the registrant has at least one class of common equity securities listed and registered on a national securities exchange.

Instructions.

1. "Common equity" is as defined in Securities Act Rule 405 (§230.405 of this chapter). For purposes of computing the aggregate market value of the registrant's outstanding voting and non-voting common equity pursuant to General Instruction I.B.6., registrants shall use the price at which the common equity was last sold, or the average of the bid and asked prices of such common equity, in the principal market for such common equity as of a date within 60 days prior to the date of sale. See the definition of "affiliate" in Securities Act Rule 405 (§230.405 of this chapter).

2. For purposes of computing the aggregate market value of all securities sold by or on behalf of the registrant in offerings pursuant to General Instruction I.B.6. during any period of 12 calendar months, registrants shall aggregate the gross proceeds of such sales; provided, that, in the case of derivative securities convertible into or exercisable for shares of the registrant's common equity, registrants shall calculate the aggregate market value of any underlying equity shares in lieu of the market value of the derivative securities. The aggregate market value of the underlying equity shall be calculated by multiplying the maximum number of common equity shares into which the derivative securities are convertible or for which they are exercisable as of a date within 60 days prior to the date of sale, by the same per share market price of the registrant's equity used for purposes of calculating the aggregate market value of the registrant's outstanding voting and non-voting common equity pursuant to Instruction 1 to General Instruction I.B.6. If the derivative securities have been converted or exercised, the aggregate market value of the underlying equity shall be calculated by multiplying the actual number of shares into which the securities were converted or received upon exercise, by the market price of such shares on the date of conversion or exercise.

3. If the aggregate market value of the registrant's outstanding voting and non-voting common equity computed pursuant to General Instruction I.B.6. equals or exceeds $75 million subsequent to the effective date of this registration statement, then the one-third limitation on sales specified in General Instruction I.B.6(a) shall not apply to additional sales made pursuant to this registration statement on or subsequent to such date and instead the registration statement shall be considered filed pursuant to General Instruction I.B.1.

4. The term "Form 10 information" means the information that is required by Form 10 or Form 20-F (§249.210 or §249.220f of this chapter), as applicable to the registrant, to register under the Securities Exchange Act of 1934 each class of securities being registered using this form. A registrant may provide the Form 10 information in another Commission filing with respect to the registrant.

5. The date used in Instruction 2 to General Instruction I.B.6. shall be the same date used in Instruction 1 to General Instruction I.B.6.

6. A registrant's eligibility to register a primary offering on Form S-3 pursuant to General Instruction I.B.6. does not mean that the registrant meets the requirements of Form S-3 for purposes of any other rule or regulation of the Commission apart from Rule 415(a)(1)(x) (§230.415(a)(1)(x) of this chapter).

7. Registrants must set forth on the outside front cover of the prospectus the calculation of the aggregate market value of the registrant's outstanding voting and non-voting common equity pursuant to General Instruction I.B.6. and the amount of all securities offered pursuant to General Instruction I.B.6. during the prior 12 calendar month period that ends on, and includes, the date of the prospectus.

8. For purposes of General Instruction I.B.6(c), a "national securities exchange" shall mean an exchange registered as such under Section 6(a) of the Securities Exchange Act of 1934.

* * * * *

5. Amend Form F-3 (referenced in §239.33) by adding General Instruction I.B.5. to read as follows:

Note -The text of Form F-3 does not, and this amendment will not, appear in the Code of Federal Regulations.

FORM F-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

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GENERAL INSTRUCTIONS

I. Eligibility Requirements for Use of Form F-3 * * *

B. Transaction Requirements * * *

5. Limited Primary Offerings by Certain Other Registrants. Securities to be offered for cash by or on behalf of a registrant; provided that:

(a) the aggregate market value of securities sold by or on behalf of the registrant pursuant to this Instruction I.B.5. during the period of 12 calendar months immediately prior to, and including, the sale is no more than one-third of the aggregate market value worldwide of the voting and non-voting common equity held by non-affiliates of the registrant;

(b) the registrant is not a shell company (as defined in §230.405 of this chapter) and has not been a shell company for at least 12 calendar months previously and if it has been a shell company at any time previously, has filed current Form 10 information with

the Commission at least 12 calendar months previously reflecting its status as an entity that is not a shell company; and

(c) the registrant has at least one class of common equity securities listed and registered on a national securities exchange.

Instructions.

1. "Common equity" is as defined in Securities Act Rule 405 (§230.405 of this chapter). For purposes of computing the aggregate market value of the registrant's outstanding voting and non-voting common equity pursuant to General Instruction I.B.5., registrants shall use the price at which the common equity was last sold, or the average of the bid and asked prices of such common equity, in the principal market for such common equity as of a date within 60 days prior to the date of sale. See the definition of "affiliate" in Securities Act Rule 405 (§230.405 of this chapter).

2. For purposes of computing the aggregate market value of all securities sold by or on behalf of the registrant in offerings pursuant to General Instruction I.B.5. during any period of 12 calendar months, registrants shall aggregate the gross proceeds of such sales; provided, that, in the case of derivative securities convertible into or exercisable for shares of the registrant's common equity, registrants shall calculate the aggregate market value of any underlying equity shares in lieu of the market value of the derivative securities. The aggregate market value of the underlying equity shall be calculated by multiplying the maximum number of common equity shares into which the derivative securities are convertible or for which they are exercisable as of a date within 60 days prior to the date of sale, by the same per share market price of the registrant's equity used for purposes of calculating the aggregate market value of the registrant's outstanding voting and non-voting common equity pursuant to Instruction 1 to General Instruction

I.B.5. If the derivative securities have been converted or exercised, the aggregate market value of the underlying equity shall be calculated by multiplying the actual number of shares into which the securities were converted or received upon exercise, by the market price of such shares on the date of conversion or exercise.

3. If the aggregate market value of the registrant's outstanding voting and non-voting common equity computed pursuant to General Instruction I.B.5. equals or exceeds $75 million subsequent to the effective date of this registration statement, then the one-third limitation on sales specified in General Instruction I.B.5(a) shall not apply to additional sales made pursuant to this registration statement on or subsequent to such date and instead the registration statement shall be considered filed pursuant to General Instruction I.B.1.

4. The term "Form 10 information" means the information that is required by Form 10 or Form 20-F (§249.210 or §249.220f of this chapter), as applicable to the registrant, to register under the Securities Exchange Act of 1934 each class of securities being registered using this form. A registrant may provide the Form 10 information in another Commission filing with respect to the registrant.

5. The date used in Instruction 2 to General Instruction I.B.5. shall be the same date used in Instruction 1 to General Instruction I.B.5.

6. A registrant's eligibility to register a primary offering on Form F-3 pursuant to General Instruction I.B.5. does not mean that the registrant meets the requirements of Form F-3 for purposes of any other rule or regulation of the Commission apart from Rule 415(a)(1)(x) (§230.415(a)(1)(x) of this chapter).

7. Registrants must set forth on the outside front cover of the prospectus the calculation of the aggregate market value of the registrant's outstanding voting and non-

voting common equity pursuant to General Instruction I.B.5. and the amount of all securities offered pursuant to General Instruction I.B.5. during the prior 12 calendar month period that ends on, and includes, the date of the prospectus.

8. For purposes of General Instruction I.B.5(c), a "national securities exchange" shall mean an exchange registered as such under Section 6(a) of the Securities Exchange Act of 1934.

* * * * *

By the Commission.

Nancy M. Morris
Secretary

Dated: December 19, 2007

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

SOUTHERN DIVISION

DALTON PETRIE, individually and on behalf of all others similarly situated, Plaintiff, v. ELECTRONIC GAME CARD, INC., LEE J. COLE, LINDEN BOYNE, KEVIN DONOVAN, PAUL FARRELL, EUGENE CHRISTIANSEN, ANNA HOUSSELS, ESTATE OF LORD STEINBERG AND LYNNE ROCHELLE ATTIAS, AND JONATHAN STEINBERG AS EXECUTORS OF THE ESTATE OF LORD LEONARD STEINBERG, Defendants.	Case No. SA CV 10-0252 DOC (RNBx)
PENNY PACE, individually and on behalf of all others similarly situated, Plaintiff, -against- TIMOTHY QUINTANILLA, HENRY MENDOZA, BILL TORRES, JAMES FRANCIS BERGER, AND CINDY E. GONZALEZ, Defendants.	Case No.: No. SACV 14-02067-DOC (RNBx)

Expert Report of Dr. Mukarram Attari
June 01, 2015

EXHIBIT
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I. Qualifications

1. I am currently a Vice President in the Financial Markets practice at Charles River Associates ("CRA"), an economic consulting firm that I joined in January 2003. From 1997 to 2002, I was an Assistant Professor in the Finance Department of the Business School at the University of Wisconsin – Madison. I obtained my Ph.D. in Finance from the University of Iowa in 1997. Before that, I was a student in the graduate program in business administration at the Indian Institute of Management, Ahmedabad. I received an undergraduate degree in engineering from the University of Bombay.

2. At the University of Wisconsin – Madison, I taught undergraduate, masters and Ph.D. level courses on international finance, fixed income securities, derivatives and advanced asset pricing. My academic research and teaching have focused on a wide area of finance including market efficiency, the valuation of stocks, bonds, derivatives and structured products, credit risk and the effect of liquidity on asset prices.

3. My research has been published in top academic journals: The Journal of Finance, the Journal of Financial Economics, the Journal of Financial and Quantitative Analysis and the Journal of Economic Dynamics and Control. My work has also been published as a chapter in the book, "Derivatives and Financial Mathematics." I am a past or current member of the American Finance Association, the Western Finance Association and the European Finance Association.

4. As part of my consulting work at CRA, I have extensive experience in the modeling and valuation of a variety of assets, including stocks, bonds, derivatives, and structured securities in both liquid and less liquid markets. My clients have included government agencies, corporations (and their officers and directors), financial institutions, auditors and institutional and individual investors.

5. The courses that I have taught, my academic research and my consulting have involved considerable amounts of work on the modeling of stock prices and trading. I have drawn upon my extensive teaching, research and consulting experience in formulating my opinions in this matter. A copy of my curriculum vitae is attached as Exhibit 1, along with a list of my publications. I have filed expert reports and have testified in four matters, as shown in Exhibit 1.

II. Assignment and Summary of Opinions

6. I have been asked by counsel for the Estate of Lord Leonard Steinberg, counsel for Paul Farrell, and counsel for Timothy Quintanilla, Henry Mendoza, Bill Torres, James Francis Berger, and Cindy E. Gonzalez, to review and opine on the analysis and conclusions presented in the expert report of Howard Mulcahey ("Mulcahey Report") regarding the efficiency of the market for Electronic Game Card, Inc. ("EGC") stock during the period from April 5, 2007 to May 18, 2010 (the "Class Period").[1]

7. It is my opinion that the market for EGC stock was not efficient. Mr. Mulcahey's opinion that EGC stock traded in an efficient market is based on a flawed analysis. Further, even the results of Mr. Mulcahey's flawed analysis are insufficient to support his opinion that the market for EGC stock was efficient.

8. My opinion that the market for EGC stock was not efficient is based on the following observations:

   a. EGC stock was listed on the OTC Bulletin Board ("OTCBB"), which was not an efficient market.

   b. The market for EGC stock, in particular, was not efficient based on the least stringent test of market efficiency – the autocorrelation test of weak-form market efficiency.

   c. Mr. Mulcahey has not demonstrated the efficiency of the market for EGC stock during the Class Period on the basis of Cammer factors and other analyses contained in his report. The tests reported in the Mulcahey report are conceptually flawed, and the results are incorrectly interpreted as providing evidence for market efficiency.

9. In the course of preparing my report, I have been assisted by staff at CRA working under my direction and supervision. CRA is being compensated at an hourly rate of $825 for my work in this matter, and the compensation is not dependent on my opinions or the outcome of this matter. My work in this matter is ongoing, and I reserve the right to supplement or modify my

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1 Consolidated Third Amended Complaint For Violations of the Federal Securities Laws, Petrie v. Electronic Game Card, Inc., et. al., Central District of California. Plaintiffs' First Amended Class Action Complaint For Violations of the Federal Securities Laws, Pace v. Quintanilla, et. al., Central District of California. Expert Report of Howard J. Mulcahey, March 2, 2015. The Mulcahey Report addresses the Class Period proposed in Petrie v. Electronic Game Card (April 5, 2007 through May 18, 2010) rather than the shorter class period proposed in Pace v. Quintanilla (March 26, 2008 through February 19, 2010).

opinions to the extent new information comes to light subsequent to the date of this report. A complete list of the documents that I have relied upon in forming my opinions is attached as Exhibit 2.

III. Basis for Opinions

10. My opinions are based on two broad observations. First, the OTCBB market as a whole is not generally efficient. Second, the market for EGC stock in particular, which was listed on OTCBB, was not efficient. These two observations are discussed further below.

11. The observation, that OTCBB as a whole is not efficient, is important. Courts have recognized that "[t]he market system upon which a particular stock trades provides some insight as to the likelihood that the market for that stock is efficient, but it is not dispositive."[2] The argument that NYSE and NASDAQ are "efficient markets" has been made in many securities litigations. The courts have generally held that the market for a given stock is not necessarily efficient simply because it is listed on a national exchange.[3] In other words, even though a stock is listed on a national exchange, that particular stock may not be trading efficiently. While it is not dispositive, when a stock is listed on a market that is not efficient, such as the OTCBB, it is far less likely that it trades efficiently than a stock listed on a national exchange. The Mulcahey Report does not address this issue.

12. The second issue, the efficiency of the market for EGC stock in particular, is addressed in the Mulcahey Report. However, in my opinion, Mr. Mulcahey's conclusion that the market for EGC stock was efficient is wrong. Mr. Mulcahey's conclusion is based on flawed and inappropriate tests, as well as flawed interpretations of the results of the tests.

A. EGC was a "Penny Stock" that was Listed on the OTC Bulletin Board

13. EGC was a small company with few assets and a small market capitalization before and during the Class Period. For example, EGC reported assets and revenues of only $5.1 million and $1.0 million as of December 31, 2006, $10.2 million and $6.0 million as of December 31, 2007 and

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2 Court Decision, Douglas O'Neil, et al., Plaintiffs, against Curtis Appel, et al., United States District Court, W.D. Michigan, Southern Division, February 29, 1996.

3 Memorandum and Order, In Re Polymedica Corporation Securities Litigation, United States District Court – District of Massachusetts, September 28, 2006.

$18.9 million and $10.6 million as of December 31, 2008.[4] Because of its small size, EGC was eligible for simplified "small business" SEC filings and was not required to file the standard SEC forms – e.g., EGC filed its 2006 and 2007 annual reports using SEC Form 10-KSB and not the standard SEC Form 10-K typically used by public companies.[5] EGC's 2008 annual report was filed using SEC Form 10-K because a change in SEC regulations transitioning small businesses to the new "smaller reporting company system" eliminated the special small business forms.[6]

14. EGC's stock was listed on the OTCBB, "an electronic inter-dealer quotation system that displays quotes, last-sale prices, and volume information for many OTC equity securities that are not listed on a national securities exchange."[7] The OTCBB was started as a marketplace for small penny stocks and is still populated predominantly by stocks with small market capitalization, infrequent trading, low trading volume, and general lack of transparency.[8]

15. EGC's stock traded at $0.22 per share at the start of the Class Period and traded at less than $2.20 per share over the entire Class Period. No analysts followed EGC stock at the start of the Class Period and only one analyst followed the stock for a majority of the Class Period.

16. Further, because of its small size and low market capitalization, EGC's stock was subject to the "penny stock" rules and trading in EGC's shares was "subject to additional sales practice requirements on broker-dealers who sell penny stocks to persons other than established

4 EGC Forms 10-KSB for FY 2006, and 2007, and Form 10-K for FY 2008, filed on April 5, 2007, March 26, 2008, and March 24, 2009, respectively.

5 Prior to 2008, "[t]o qualify as a small business issuer, a company needed to have (1) less than $25 million in public float and (2) less than $25 million in annual revenue." Changeover to the SEC's New Smaller Reporting Company System by Small Business Issuers and Non-Accelerated Filer Companies: A Small Entity Compliance Guide, U.S. Securities and Exchange Commission, January 25, 2008.

6 "Under the new rules, companies qualify as 'smaller reporting companies,' and therefore for scaled disclosure, if they (1) have a common equity public float of less than $75 million or (2) are unable to calculate their public float and have annual revenue of $50 million or less, upon entering the system." Changeover to the SEC's New Smaller Reporting Company System by Small Business Issuers and Non-Accelerated Filer Companies: A Small Entity Compliance Guide, U.S. Securities and Exchange Commission, January 25, 2008.

7 U.S. Securities and Exchange Commission, "Over-the-Counter Market," https://www.sec.gov/divisions/marketreg/mrotc.shtml.

8 Ang A., Shtauber A. and P. Tetlock (2013), "Asset Pricing in the Dark: The Cross Section of OTC Stocks," Review of Financial Studies, Volume 26, Issue 12, Abstract and p. 2992.

customers and accredited investors."[9] The penny stock rules include requirements that the brokers approve the investing sophistication of the clients as well as make extensive disclosures of the risks associated with trading such stocks. In establishing the penny stock rules, the SEC took into consideration, among other factors, that "because it may be difficult to find quotations for certain penny stocks, they may be difficult, or even impossible, to accurately price."[10] Therefore, as I demonstrate also below, investors in EGC were on notice that the market for the stock may not be efficient.

B. Industry Regulators and Academic Researchers have Concluded that the OTC Bulletin Board is not an Efficient Market

17. An efficient market is one on which all information relevant to the value of the security is quickly and accurately reflected in its price. Industry regulators and academic researchers who have studied the OTCBB have concluded that it is not an efficient market.

18. The most direct stated opinion that the OTCBB is not an efficient market comes from the Financial Industry Regulatory Authority ("FINRA"), which operates and regulates the OTCBB. In June 2014 FINRA presented a proposal to shut down the OTCBB, stating that "information being disseminated to investors is so incomplete as to be potentially misleading with respect to the current pricing in these securities."[11] Mr. Mulcahey's assertion that the market for EGC's stock was efficient is at odds with the opinion of FINRA, the OTCBB's operator and regulator, that the market as a whole was not efficient.

19. FINRA's opinion is consistent with the findings of studies by academic researchers for markets for over the counter ("OTC") stocks. A 2013 research paper concludes that "[o]ver-the-counter (OTC) stocks are far less liquid, disclose less information, and exhibit lower institutional holdings

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[9] EGC Form 10-KSB for FY 2006, filed April 5, 2007, page 9.

[10] U.S. Securities and Exchange Commission, "Penny Stock Rules," http://www.sec.gov/answers/penny.htm.

[11] U.S. Securities and Exchange Commission, "Self-Regulatory Organizations; Financial Industry Regulatory Authority, Inc.; Notice of Filing of a Proposed Rule Change Relating to Quotation Requirements for Unlisted Equity Securities and Deletion of the Rules Related to the OTC Bulletin Board Service," Release No. 34-72575; File No. SR-FINRA-2014-030, July 9, 2014, pp. 13-14.

than do [exchange] listed stocks."[12] All these characteristics are indicative of a market that is not efficient.

20. A 2008 study found that the "market quality" of stocks that start trading on the OTCBB or the Pink Sheets markets after they are delisted from the NYSE and NASDAQ deteriorates significantly, with increases in bid-ask spread and volatility and declines in trading volume.[13] Again, these are characteristics of a market that is not efficient.

21. A 2015 study that compares the returns on OTC stocks that were previously listed on an exchange to the returns on OTC stocks that were not previously listed on an exchange finds significant mispricing in OTC stocks that were not previously listed on an exchange.[14] In conjunction with the 2008 study discussed in the paragraph above, this indicates that OTC stocks, like EGC, that were never previously listed on an exchange trade least efficiently.

22. Finally, it is important to note that OTCBB has been analyzed by very few academics because the lack of and the poor quality of information makes research of this market challenging. The opacity resulting from the lack of information applies to investors as well and contributes to a lack of market efficiency.[15]

23. In conclusion, both regulators and researchers have concluded that OTCBB is not an efficient market. The market structure of OTCBB has been viewed as slowing the proper incorporation of new value-relevant information. It is far less likely that a stock could trade efficiently on a market which is not efficient as a whole than a stock trading on a national exchange.

24. The general lack of efficiency of the OTCBB is, in fact, reflected in the inefficiency of the trading of EGC's stock as shown by my analysis in the next two sections. In Section III.C, I report the results of tests that demonstrate the inefficiency of the market for EGC stock. In Section III.D, I

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12 Ang A., Shtauber A. and P. Tetlock (2013), "Asset Pricing in the Dark: The Cross Section of OTC Stocks," Review of Financial Studies, Volume 26, Issue 12, Abstract.

13 Harris J., Panchapagesan V. and I. Werner (2008), "Off but Not Gone: A Study of Nasdaq Delistings," Fisher College of Business Working Paper Series, March 4, 2008.

14 Eraker B. and M. Ready (2015), "Do Investors Overpay for Stocks with Lottery-like Payoffs? An Examination of Returns on OTC Stocks," Journal of Financial Economics, Volume 115, Issue 3, pp. 486–504.

15 Ang A., Shtauber A. and P. Tetlock (2013), "Asset Pricing in the Dark: The Cross Section of OTC Stocks," Review of Financial Studies, Volume 26, Issue 12, p. 2989.

explain why Mr. Mulcahey's opinion that the market for EGC stock was efficient is not supported by his analysis and is incorrect.

C. The Market for EGC's Common Stock was Not Efficient

25. Not surprisingly, the inefficiency of the OTCBB is reflected in the trading of EGC's stock. An efficient market is one in which the price of a security reflects all value relevant information. Because the stock price already reflects all value relevant information, the future price of a stock trading in an efficient market cannot be predicted using information available (as explained in paragraph 27 below). When the market for a stock is not efficient, the future stock price can be predicted.

26. Financial economists consider three levels of efficiency based on the universe of information that is reflected in the stock price. The market for a stock is considered strong-form efficient if the stock price reflects all information, both public and private. The market for a stock is considered semistrong-form efficient if the stock price reflects all public information. In a semi-strong-form efficient market it is not possible to use public information to predict future stock prices. The market for a stock is considered weak-form efficient if it is not possible to use past stock prices to predict future stock prices.[16] Weak-form efficiency is the lowest threshold of efficiency because it only requires that it not be possible to predict future stock prices using past prices, which are a subset of all publicly available information. As I show below, EGC stock did not meet even this lowest threshold of market efficiency over the entire Class Period – i.e., it was possible to predict future EGC stock prices using past EGC stock prices during portions of the Class Period.

27. The most direct and commonly used statistical test of weak-form market efficiency is the test of autocorrelation or predictability.[17] Autocorrelation measures the predictability of future stock returns using past stock returns. Stock returns are the changes (in percentage terms) in stock prices. If a stock return can be predicted by a previous (e.g. the prior day's) stock return, then the market for the stock is not efficient. The reason is that in an efficient market, the

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16 Campbell J., Lo A. and A. C. MacKinlay, "The Econometrics of Financial Markets," Princeton University Press 1997, p. 22. See also Mulcahey Report, pp. 11 and 45.

17 I use autocorrelation and predictability interchangeably in this report. In fact, autocorrelation is one form of predictability – based on the stock's own history rather than other factors.

information in the previous stock return should be incorporated in the current stock price and it would have no further predictive power for future price changes, i.e., returns.

28. The most common test for autocorrelation is the one that tests if a return on a given day is predicable by the prior day's return. "Predictable" in a statistical context means that the prior day's return contains information that can be used to make some inference about the direction and size, on average, about the next day's return. Both positive and negative autocorrelation indicate market inefficiency. A positive autocorrelation implies that an above-average stock return on a given date is likely to be followed by an above-average stock return on the next day (and likewise, a below-average stock return on a given date is likely to be followed by a below-average stock return on the next day). A negative autocorrelation implies that an above-average return today is likely to be followed by a below-average return tomorrow (and likewise, a below-average return today is likely to be followed by an above-average return tomorrow).

29. Mr. Mulcahey agrees with the relevance of autocorrelation. In fact, he performs an autocorrelation test in a section titled "Statistical Test for Weak-Form Market Efficiency," indicating the direct relevance of the test to the determination of the efficiency of the market for EGC stock.[18] Mr. Mulcahey performs a single autocorrelation test over the full 37-month Class Period and concludes that the autocorrelation is not statistically significant.[19] However, Mr. Mulcahey did not perform standard robustness checks to see if the result held uniformly over the entire Class Period. Checking whether the results of statistical analysis are robust is always important, but is particularly critical here because the Class Period covers a period of significant market turmoil. During the Class Period, the NASDAQ Index peaked at 2,859.12 on October 31, 2007 and then declined by more than 50% to 1,268.64 on March 9, 2009 as a result of the financial and economic crisis.[20]

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18 Mulcahey Report, pp. 45-47 and Exhibit 14.

19 A test shows statistically significant autocorrelation when the autocorrelation is large enough (positive or negative) to be distinguishable from zero (i.e., no autocorrelation) with a high degree of confidence. Standard statistical tests require a confidence level of 95%.

20 Bloomberg. Mr. Mulcahey also notes the fact that market conditions changed dramatically over the Class Period and uses it to justify certain analytical decisions, such as his decision to estimate the market model over the Class Period rather than a period prior to the Class Period that is customary. Further, Mr. Mulcahey reports that he estimated the market model over a one-year period ending at the start of the

30. I correct the shortcoming of Mr. Mulcahey's analysis and find that EGC's stock exhibits autocorrelation which indicates that the market for the stock is not efficient. I estimate the autocorrelation for EGC stock for four periods: (i) a one-year period that ends at the start of the Class Period (running from April 5, 2006 to April 4, 2007), (ii) the first year of the Class Period (running from April 5, 2007 to April 4, 2008), (iii) the second year of the Class Period (running from April 5, 2008 to April 4, 2009), and (iv) the period from April 5, 2009 to February 18, 2010. I use one-year periods because these are commonly used for estimation purposes in academic research and in economic analysis performed in the context of securities litigation.[21] I start with a one-year period before the Class Period because the stock price during the period would be unaffected by any alleged misstatements and omissions that affected the stock price during the Class Period. I end the fourth period on February 18, 2010 because EGC's stock did not trade for the subsequent 10 trading days.[22] The results are presented in Exhibit 3.

31. Exhibit 3, Panel A reports the estimated autocorrelation using actual stock returns, i.e., the percentage changes in stock prices. Exhibit 3, Panel B reports the estimated autocorrelation using "market-adjusted," or "excess," stock returns. The "market adjusted" EGC returns represent EGC's stock returns in excess of the return that can be expected given changes in the market index. Both approaches are standard in financial economics, as Mr. Mulcahey also recognizes in his report.[23]

32. EGC's stock returns, both actual and adjusted for market movements, exhibit an autocorrelation of -20.1% over the one-year period that ends at the start of the Class Period. The

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Class Period and over one-year periods within the Class Period (see Mulcahey Report, Appendix B, Section C).

21 Annual periods have been used in the analysis of daily returns for a long time in academic research. See R. Roll (1981), "A Possible Explanation of the Small Firm Effect," The Journal of Finance, v. 4, pp. 879-888. The Mulcahey Report also recognizes that regression parameters can, and do, change over time in estimating a "rolling 252-day beta (or slope coefficient) of EGC regressed on the market index." See Mulcahey Report, Exhibit B-2. See also Mulcahey Deposition, p. 211.

22 I address the efficiency of EGC stock over the 2.5 months from the resumption of trading on March 5, 2010 to the May 18, 2010 end of the Class Period separately below.

23 Mulcahey Report, p. 25. I compute the excess stock returns using a "market model regression" where I regress the daily EGC stock returns on constant term and a market index. I use the NASDAQ Composite Index as a market index. I use the regression estimates of the constant term and the market index coefficient to compute a predicted EGC return based on the market index return for each day. I then compute the excess return as the difference between the EGC actual return and the EGC predicted return.

autocorrelation is statistically significant at the 99% confidence level (even higher than the 95% confidence level typically reported in economic analysis performed in the context of securities litigation). The estimated autocorrelation indicates that EGC's stock price over-reacts to new information and 20.1% of the return earned on a day is expected to be reversed on the very next day during this period. This statistically significant negative autocorrelation indicates that the EGC stock did not trade in an efficient market even in the period free of any alleged misstatements prior to the Class Period.

33. EGC's actual stock returns exhibit an autocorrelation of +21.0% (Exhibit 3, Panel A) and its market-adjusted stock returns exhibit an autocorrelation of +18.3% (Exhibit 3, Panel B) over the period from April 5, 2009 to February 18, 2010. The autocorrelation in both actual and market-adjusted returns is statistically significant at the 99% confidence level. The estimated autocorrelation indicates that EGC's stock price adjusts to new information slowly and the expected return on a given day is approximately 18.3%-21.0% of the return earned on the previous day.

34. The estimated autocorrelation in the first and second years of the Class Period is not statistically distinguishable from zero. However, it is possible that this absence of autocorrelation reflects the shift in the autocorrelation from -20.0% during the year before the Class Period to approx. +20% during the final year of the Class Period. From a statistical viewpoint, the autocorrelation estimate during these two years of the Class Period could reflect offsetting positive and negative autocorrelation, that would result in a value that is indistinguishable from zero.

35. As a test based on an alternative breakdown of the Class Period, I estimate the autocorrelation for EGC stock for three periods based on the overall market performance: (i) the period from a year prior to the Class Period (April 5, 2006) to the peak of the market on October 31, 2007, (ii) the period from the peak of the market on October 31, 2007 to the market bottom on March 9, 2009, and (ii) the period from the market bottom on March 9, 2009 through February 18, 2010.[24] As Exhibit 4 shows, the autocorrelation in EGC's stock returns is statistically significant in all three sub-periods, for both actual and excess stock returns, confirming that the market for EGC stock was not efficient over the proposed Class Period.

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24 The Mulcahey Report, p. 43, also recognizes that economic analysis during the financial crisis of 2007-2009 has to be considered independently from analysis outside this period.

D. Mulcahey's Analysis of the Cammer Factors is Flawed and Does Not Support a Conclusion that the Market for EGC's Stock was Efficient

36. Mr. Mulcahey claims that an analysis of the five factors adopted by the courts in Cammer v. Bloom, 711 F. Supp. 1264 (D.N.J. 1989) (the "Cammer Factors") supports a finding that the market for EGC stock was efficient. I disagree. First, it is important to note that the direct test of market efficiency discussed in the previous section rejects the hypothesis that the market for EGC stock was efficient during the Class Period even at the lowest threshold of market efficiency. Second, as I note below, and as Mr. Mulcahey has also acknowledged, EGC stock was marginal on several of the Cammer Factors.

37. The Cammer Factors that the courts examine in evaluating the efficiency of the market for a stock are: (i) the eligibility of the company to file a Form S-3 with the SEC; (ii) coverage of the company by securities analysts; (iii) average weekly share turnover (iv) the presence of market-makers or arbitrageurs; and (v) evidence of cause and effect relationship between news and stock price reactions.[25]

1. Eligibility to file Form S-3

38. Mr. Mulcahey acknowledges that (i) "EGC did not file a Form S-3 during the Class Period," (ii) "EGC met the threshold of $75 million of stock held by non-affiliates on just 116 of the 786 (or 14.8%) trading days during the Class Period," and (iii) "this factor does not support a finding of market efficiency for EGC stock."[26] I agree.

2. Analyst Coverage

39. In the text of the report Mr. Mulcahey presents numbers ranging from 37 to 148 for the number of analyst reports on EGC during the Class Period.[27] However, Mr. Mulcahey also acknowledges that an average of only 0.9 analysts covered EGC during the Class Period in an exhibit comparing EGC to other stocks on the Cammer Factors.[28] The 0.9 analysts that covered EGC puts EGC second from the bottom of the set of firms for which Mr. Mulcahey presents information in his

25 Court Decision, Rose Cammer, et al., Plaintiffs, against Bruce M. Bloom, et al., United States District Court, D. New Jersey, April 19, 1989.

26 Mulcahey Report, p. 23.

27 Mulcahey Report, p. 18.

28 Mulcahey Report, p. 19 and Exhibit 15.

Exhibit 15. Further, it is highly unlikely that 0.9 analysts meets the threshold of "a significant number of securities analysts followed and reported on a company's stock during the class period" that the Cammer court required as indicating market efficiency. In fact, the court in the CyberGuard case quoted by Mr. Mulcahey states that it "finds that the existence of two (2) analysts does not heavily favor a finding of efficiency. Courts addressing the issue of market efficiency in the context of class certification have applied the 'fraud of the market' theory where at least six (6) securities analysts issued reports on the stock during the class period."[29] Thus, it is my opinion that analyst coverage factor does not support a finding of market efficiency for EGC stock.

3. Trading Volume

40. Mr. Mulcahey states that the average weekly trading volume for EGC stock during the Class Period of 3.30% of shares outstanding exceeds the Cammer court's two percent threshold for a "strong presumption that the market for the security is an efficient one."[30] But the composition of the trading volume and the way it is measured and reported on the OTCBB is unknown, making it difficult to evaluate the significance of the 3.30% of weekly average trading volume or to compare it to the 2% threshold set by the Cammer court.

41. Acknowledging potential overstatement of trading volume that occurs on a dealer market, Mr. Mulcahey adjusts volume downward by 55% to account for "volume attributable to high frequency traders and [potential double-counting of volume] attributable to market makers."[31] Mr. Mulcahey does not provide the source for the 55% adjustment factor or support for the relevance of the 55% factor to the OTCBB during the Class Period. Mr. Mulcahey's choice of 55% is based on his observation that "volume attributable to high frequency traders and market makers, which by some estimates is between 50% and 58%."[32] My research suggests that the 50% and 58% factors are based on studies of the NASDAQ during the late 1990s when the level of high frequency trading was significantly lower than it was during the 2007-2010 Class

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29 Order on Motion for Class Certification, Cheney, et. al v. CyberGuard, et. al, United States District Court – Southern District of Florida, August 14, 2002.

30 Mulcahey Report, pp. 13-14.

31 Mulcahey Report, p. 14. A dealer market is a market, such as the NASDAQ and OTCBB, in which dealers post buy and sell quotes at which market participants can execute trades.

32 Mulcahey Report, p. 14.

Period.[33] But more recent industry studies, performed during the proposed Class Period in this case, have estimated that high frequency trading alone accounts for 60-70% of market activity.[34] Applying a 60%-70% adjustment factor reduces EGC's average weekly turnover to 0.99%-1.32%.[35] This partially adjusted average weekly turnover of 0.99%-1.32% is below the Cammer court's two percent threshold for a "strong presumption that the market for the security is an efficient one" and close to the one percent threshold set by the Cammer court for a "substantial presumption" of market efficiency. This adjustment does not fully account for potential double counting of volume that is a feature of dealer markets.

42. Further, Mr. Mulcahey states that "trading volume is generally viewed as an indicia of market efficiency because high trading volume implies significant investor 'interest' in the company" and elsewhere that "the presence in the market of institutional investors, arbitrageurs, and other full-time investors" is "[a]nother indication of market efficiency."[36] I agree that active trading by institutions increases the efficiency of the market for a stock. However, in the case of EGC there were, in fact, only a few institutional investors, and their trades accounted for a small fraction of the trading volume over the Class Period.

43. Reported Institutional investors holdings accounted for between 10.9% and 33.4% of the EGC stock. Only seventeen (17) institutional investors reported holding EGC stock over some portion of the Class Period, with a maximum of seven (7) institutional investors during any given quarter. Moreover, as Exhibit 5 shows, these institutions traded small volumes, with changes in

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33 A reference to a 58.4% required reduction in reported trading volume for dealer activity is found in Gould, J. and A. Kleidon (1994), "Symposium: Securities Litigation Reform: Market Maker Activity on NASDAQ : Implications for Trading Volume," Stanford Journal of Law, Business and Finance v.1. A reference to a required 50% reduction in reported trading volume due to dealer activity is found in Atkins, A. and E. Dyl (1997), "Market Structure and Reported Trading Volume: NASDAQ versus the NYSE," Journal of Financial Research, v. 3, in Abstract. In his deposition, Mr. Mulcahey, contends that the estimates of 50% and 58% are derived from a recent court opinion but he did not provide a source. See Deposition of Howard Mulcahey, May 27, 2015, p. 45.

34 Letter: from TABB Group, LLC to U.S. Securities and Exchange Commission, "RE: File No. S7-27-09," "Release No. 34-60997," "Unitended [sic] Consequences of Market Structure Regulation," December 8, 2009.

35 The range of 0.99%-1.32% is computed as 3.30% multiplied by 30% (resulting in 0.99%) and by 40% (resulting in 1.32%). It should be noted that even Mr. Mulcahey's own reduction factor of 55% results in a weekly turnover below the 2% threshold set by the Cammer court. See Mulcahey Report, footnote 26.

36 Mulcahey Report, pp. 15 and 48.

their holdings accounting for only 14.9% of the total volume during the Class Period.[37] This finding is consistent with the findings of academic researchers that the OTCBB market trading is dominated by retail investors rather than sophisticated institutional investors.[38]

44. Given the low volume of institutional trading, one can conclude that most of the reported trading volume in EGC stock was generated by retail investors (in addition to the high frequency traders and market makers whose trades Mr. Mulcahey attempts to adjust for). Based on these observations, it is my opinion that Mr. Mulcahey has not shown the EGC meets the Cammer court's trading volume thresholds for indicia of market efficiency during the proposed Class Period.

4. Number of Market Makers

45. The number of market makers that Mr. Mulcahey lists as providing quotes in Exhibit 5 to his report seems to exaggerate the number of market-makers active in the market for EGC stock. For example, Mr. Mulcahey lists "Automated Trading Desk Finncl Svcs, LLC" as having quotes in all 35 of the 35 months from April 2007 to February 2010 in Exhibit 5A. However, his Exhibit 6A shows that "Automated Trading Desk Finncl Svcs, LLC" only traded in 22 of the 38 months from April 2007 to May 2010. In other words, according to Mr. Mulcahey's data, "Automated Trading Desk Finncl Svcs, LLC" did not execute a single trade in 13 or more of the 35 months (more than 1/3 of the time) that it was making markets in EGC stock.

46. Furthermore, since Exhibit 5A to the Mulcahey Report only reports if a market maker was active during a particular month, it is impossible to determine if the market maker was active on all or just a few days during the month. Market efficiency of a stock is enhanced by having multiple market makers trading the stock at the same time. It is impossible to determine how many market makers were actively trading EGC's stock on any given day during the Class Period from Mr. Mulcahey's report or the underlying data produced along with the Mulcahey Report.

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37 Results are based on data from Thomson Financial.

38 Ang A., Shtauber A. and P. Tetlock (2012), "Asset Pricing in the Dark: The Cross Section of OTC Stocks," Review of Financial Studies, Volume 26, Issue 12, p. 2986.

5. EGC Stock's Responsiveness to New Information

47. The price of a stock traded in an efficient market reflects new information quickly and accurately. Thus, a test for market efficiency requires checking if the stock price quickly and accurately reflects new information. As I have noted in Section III.C above, the most direct statistical test is the test of autocorrelation of returns – a stock whose price quickly and accurately reflects new information will have zero autocorrelation of returns. A stock whose price reacts slowly to information will have positive autocorrelation of returns, while a stock whose price overreacts to new information will have negative autocorrelation of returns.

48. As I have also noted in Section III.C above, the returns on EGC's stock exhibit statistically significant levels of negative and positive autocorrelation over various sub-periods of the proposed Class Period. The presence of autocorrelation in returns means that investors could use past returns to predict future returns without any additional information and indicates that the market for EGC stock was not efficient during the period from April 5, 2007 through February 18, 2010.[39] Moreover, the fact that the stock was not efficient during the year preceding the Class Period means that investors had no basis for relying on the stock price at the start of the Class Period.

49. Mr. Mulcahey performs a series of tests that he claims support a finding that EGC stock price reacted quickly and accurately to new information indicating that EGC's stock traded in an efficient market. In my opinion Mr. Mulcahey's tests are flawed and he is incorrect in interpreting the results as supporting a finding that EGC's stock price reacted quickly and accurately to new information. Mr. Mulcahey's tests do not inform us whether the reaction was accurate or complete.

50. Mr. Mulcahey claims that two of his tests (**"Reaction to Company Earnings Announcements"** and **"Reaction to Company Press Releases"**) are designed to determine whether EGC's stock price reacted to the company's earning's announcements and to press releases. Unsurprisingly, Mr. Mulcahey finds that EGC's stock price experienced larger changes on days when the

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39 As I show in the next section, the market for EGC stock was also not efficient from February 19, 2010 through May 18, 2010 following the suspension of trading of the stock on OTCBB.

company announced earnings or issued press releases.[40] However, Mr. Mulcahey does not test whether the size or even the direction of the stock price changes are consistent with what would be expected given the information contained in the earnings announcement or the press release.

51. The fact that Mr. Mulcahey does not test whether the size or direction of the stock price changes are consistent with the information contained in the earnings announcements or press releases is fatal to his methodology. The purpose of the tests is to test for market efficiency, i.e., that the EGC stock reflected all relevant information. In order for that to be true, the stock price needs to change appropriately rather than simply change (in any direction) upon the arrival of new information.[41] Neither of the tests performed by Mr. Mulcahey fits that requirement. In fact, if one were to change the signs of EGC's stock returns on the earnings or press release days, the results of Mr. Mulcahey's tests, and his conclusions, would be unchanged.[42] In other words, if EGC's stock price systematically increased following bad news and declined following good news, thus failing to reflect all available information, Mr. Mulcahey's tests would still cause him to conclude that the EGC stock was efficient.

52. Further, Mr. Mulcahey's finding that the volatility of returns on earnings announcements is larger than the volatility of returns on other days is driven by the first two earnings announced

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40 Mulcahey Report, pp. 31-40. It is unclear why Mr. Mulcahey includes the earnings announcements and alleged disclosures in his analysis of press releases because he also tests each of them separately. Also, Mr. Mulcahey does not explain why he switches from a comparison of the variance of returns in analyzing earnings days to a comparison of absolute returns when analyzing the press releases.

41 In his deposition, Mr. Mulcahey distinguishes between "informational efficiency" and "fundamental efficiency" for the efficiency achieved when a stock price changes by the appropriate sign and magnitude and simply changes, respectively. See Deposition of Howard Mulcahey, May 27, 2015, p. 158. This is inappropriate. The market efficiency contemplated by the Cammer Court is the concept developed in E. Fama (1970), "Efficient Capital Markets: A Review of Theory and Empirical Work," The Journal of Finance, pp. 383-416. See Court Decision, Rose Cammer, et al., Plaintiffs, against Bruce M. Bloom, et al., United States District Court, D. New Jersey, April 19, 1989. The "market efficiency" defined in the Fama paper requires that information be properly incorporated, stating that "A market in which prices always 'fully reflect' available information is called 'efficient'."

42 Mr. Mulcahey's tests won't change because they are based on absolute values of returns (for press release days) and volatility (for earnings days). The absolute values of returns are identical regardless whether the return is positive or negative. The volatility of returns is computed based on the squared differences between the returns and their average. Since the square of both positive and negative numbers is always positive, the results of Mr. Mulcahey's test would not change if the signs of the returns on the earnings days were switched.

during the Class Period (in May 2007 and August 2007) and is reversed if these announcements are excluded.[43] I show this in Exhibit 6. Excluding the earnings days in May 2007 and August 2007, the variance on earnings days is only 84% of, i.e. smaller than, the variance on non-earnings days. Similarly, the results of Mr. Mulcahey's analysis of press releases are almost exclusively driven by the first two earning releases discussed above and the alleged disclosures. Alleged disclosure dates are routinely excluded from statistical analysis in securities litigation when the properties of a stock are examined. For example, Mr. Mulcahey excludes disclosure days from his market model using dummies. As I show in Exhibit 7, the average absolute value of returns on press releases, excluding earnings announcements and alleged disclosures, is not statistically different from the average absolute return on non-press release dates.

53. Mr. Mulcahey also tests whether he can identify information releases associated with large returns and whether large returns are followed by other large returns. These tests are incorrectly labeled "Reaction to Important New Information" and "Speed of Price Reaction to New Information" because they neither start with new information, nor do they measure the speed of price reaction to new information. Mr. Mulcahey starts with the 20 and 23 largest return days and checks whether he can identify any new information on these days or whether the return continued or reversed on the subsequent day.[44] For half the days Mr. Mulcahey is unable to find any news. Where he does find news articles, Mr. Mulcahey does not attempt to determine whether the information was new and unexpected or even if the return is in the correct direction. Nevertheless, he still concludes that "EGC's stock price was responsive to new information."[45] It is my opinion that Mr. Mulcahey's conclusion is not supported by the tests he performs on the dates with large EGC stock returns.

54. The results of Mr. Mulcahey's analysis of as to whether large returns in EGC's stock are associated with news actually suggest that EGC stock is not efficient. Exhibit 7 of Mr. Mulcahey's report shows that EGC's stock changes by 26.6% on April 12, 2007 and by -45.1% on

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43 It should be noted that at the time of the May 2007 and August 2007 earnings releases EGC was not followed by any analysts, whose analyses of the company's earnings announcements are important for the incorporation of the information into the stock price. See Mulcahey Report, Appendix A and p. 16.

44 Mr. Mulcahey does not explain his reason for using 20 large return days for one set of analysis and 23 days (i.e., the 20 days and an additional three days) for the second set of analysis. See Mulcahey Report, pp. 28 and 38.

45 Mulcahey Report, p. 31.

May 10, 2010 in the absence of any news. In total, 10 of the 20 largest stock returns are not associated with any news.[46] Financial economists refer to the bouncing around of stock prices absent information as "noise." Here we have an extreme example of noise because, according to Mr. Mulcahey, 10 of the 20 largest returns EGC stock experienced during the Class Period (returns exceeding +/-15.5%) were for no discernable reason. Further, the fact that Mr. Mulcahey is unable to find news on 10 days with large returns also calls into question his conclusion that news, and not noise, was the cause of the stock price change on the 10 days that happen to have news stories. Mr. Mulcahey has not undertaken the work to show that the returns were caused by the news.

55. The results of Mr. Mulcahey's analysis to determine if the price of EGC stock incorporated information quickly also suggest that the market for the stock was not efficient. Mr. Mulcahey checked if 23 days with large returns were followed by days with large returns. Mr. Mulcahey reports that in 6 of the 23 cases (26% of the cases), the day following a statistically significant return also contains a statistically significant return.[47] This pattern potentially indicates that important information took two days to be incorporated into the EGC stock price which, in my opinion, indicates that information was incorporated inefficiently. Mr. Mulcahey concludes that the finding is only "modestly determinative of a finding of the efficiency of the market for EGC common stock."[48]

56. Finally, Mr. Mulcahey asserts that "EGC's stock price generally reacted contemporaneously to new market information over the Class Period" based on his estimate of "a slope coefficient that quantifies the sensitivity of EGC's daily stock return to the daily returns on the market index, the Nasdaq Capital Market Composite Index, which is 0.739 with a t-statistic of 5.55 and statistically significant" (**"Reaction to Movements in the Market Index"**).[49] Mr. Mulcahey is wrong.

57. The "slope coefficient that quantifies the sensitivity of EGC's daily stock return to the daily returns on the market index," known as a "beta," is a measure of the market risk of the

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46 Mulcahey Report, p. 29.

47 Mulcahey Report, p. 38.

48 Mulcahey Report, p. 40.

49 Mulcahey Report, p. 27.

company.[50] For example, a company with a beta of 2 is one whose returns, on average, are equal to 2 times the return on the market index. Mr. Mulcahey is confusing EGC's market risk to be a measure of the efficiency of the market for EGC's stock. The market risk is not a measure of how quickly or accurately a stock price incorporates information.

E. An Analysis of the Cammer Factors Indicates that the Market for EGC Stock was Not Efficient After February 18, 2010

58. EGC stock did not trade between February 18, 2010 and March 5, 2010. Mr. Mulcahey has not presented evidence that EGC met any of the Cammer Factors after February 18, 2010. Available evidence suggests that it did not meet a number of the criteria.

59. Mr. Mulcahey acknowledges that EGC was not eligible to file Form S-3 during the Class Period.[51]

60. There were no analysts who covered EGC stock after February 18, 2010. Existing analysts dropped coverage on February 19, 2010.[52]

61. EGC's trading volume fell from the 3.30% average that Mr. Mulcahey computes for the Class Period to 2.56% during the post-February 18, 2010 period. A 60% to 70% adjustment for high frequency trading and market makers brings the volume down to the range of 0.77% to 1.02%. Further, changes in reported institutional investor holdings accounted for only 0.62 million of the 20.9 million shares traded during this period. This result is shown in Exhibit 5.

62. Mr. Mulcahey has provided information on the number of market makers active in EGC stock for the period until February 2010 only. He does not provide information on how many market-makers were active in EGC stock after February 2010 or whether EGC stock met this Cammer Factor after February 2010.[53]

63. Following the suspension of trading of the EGC stock between February 19 and March 4, 2010, the responsiveness to new information by the stock further deteriorated. The volatility of daily

50 The textbook definition of beta is that it measures the "covariance risk" (with the market) of a security. See Sharpe W. and G. Alexander, "Investments," Prentice Hall, 1990, p. 204.

51 Mulcahey Report, pp. 23-24.

52 "EGMI: Suspending Coverage," Roth Capital Partners Research Report, February 19, 2010. "Suspending Coverage of EGMI at Neutral," Merriman Curhan Ford Research Report, February 19, 2010.

53 Mulcahey Report, Exhibits 5A-5C.

returns tripled from 5.3% to 15.5% According to Mr. Mulcahey's own findings, of the 10 days with statistically significant excess returns at the 99% confidence level, only 4 were associated with any news. For example, the stock returns on May 4, 10 and 11, 2010 were -15.78%, -45.07%, and 19.02%, respectively, with no news associated with them.[54]

F. Other Analyses Performed by Mulcahey Also Do Not Support a Conclusion that the Market for EGC's Stock was Efficient

64. **Bid-Ask Spread.** Mr. Mulcahey describes the bid-ask spread as a "measure of liquidity or a cost of trading...because large spreads can make transactions in a security prohibitively expensive"[55] Mr. Mulcahey asserts that EGC's average bid-ask spread, equal to 2.91% of the stock price, is an indicator of efficiency. However, Mr. Mulcahey reports that EGC had the highest bid-ask spread, by a large margin, of any of the companies to which he compares EGC for establishing market efficiency.[56] Only 3 of the companies in Exhibit 15 had a bid-ask spread exceeding 1% of the stock price.

65. Furthermore, Mr. Mulcahey does not report information on bid- and ask-quotes for the period from February 19 through May 18, 2010 making it impossible to evaluate the efficiency of EGC's stock during the final three months of the proposed Class Period.

66. **Institutional Ownership.** As noted previously, Mr. Mulcahey states that "the presence in the market of institutional investors, arbitrageurs, and other full-time investors" is "[a]nother indication of market efficiency."[57] While I agree with the statement, I disagree with Mr. Mulcahey's conclusion that "[t]he level of ownership of EGC common stock by institutional shareholders ... provides support for a finding of an efficient market in EGC common stock."[58] As I discuss in Section III.D.3, a maximum of 7 institutional investors reported holding EGC stock at any quarter end. In addition, these institutional investors traded very few shares, accounting for only 14.9% of the volume during the Class Period. Inactive institutional investors do not contribute to the efficiency of the stock market.

54 Mulcahey Report, Exhibit 7.

55 Mulcahey Report, p. 42.

56 Mulcahey Report, Exhibit 15.

57 Mulcahey Report, pp. 15 and 48.

58 Mulcahey Report, p. 50.

67. In the period from February 19, 2010 through May 18, 2010, the fraction of the volume accounted for by institutional investors declines to only 2.97% of the volume.[59]

IV. Signature

68. The foregoing represents my current opinions in this matter. I reserve the right to modify or supplement my opinions based on any new information I receive.

Mukarram Attari
June 1, 2015

59 See Exhibit 5.

CRA Charles River Associates

Exhibit 1

MUKARRAM ATTARI

EXPERIENCE

2003 Onwards Charles River Associates, Boston, MA and Oakland, CA
2008 Onwards *Vice President*
2005 – 2007 *Principal*
2004 *Associate Principal*
2003 *Senior Associate*

1997–2002 University of Wisconsin–Madison
Assistant Professor, Business School

1992 Arthur Andersen & Co. (Andersen Consulting), Bombay, India
Staff Consultant

1991 Reserve Bank of India, Bombay, India
Summer Intern

EDUCATION

1992-1997 University of Iowa, Iowa City, Iowa.
Doctor of Philosophy

1990-1992 Indian Institute of Management, Ahmedabad.
Post-Graduate Diploma in Management

1986-1990 University of Bombay, India.
Bachelor of Engineering

PUBLICATIONS AND WORKING PAPERS

"Crushed by a Rational Stampede: Strategic Share Dumping and Shareholder Insurrections." With Suman Banerjee and Tom Noe. *Journal of Financial Economics*, 2006.

"Financially Constrained Arbitrage in Illiquid Markets." With Antonio Mello. *Journal of Economic Dynamics and Control*, 2006.

"Arbitraging Arbitrageurs." With Antonio Mello and Martin Ruckes. *Journal of Finance*, 2005.

"Discontinuous Interest Rate Processes: An Equilibrium Model for Bond Option Prices." *Journal of Financial and Quantitative Analysis*, 1999.

"Models of the Term Structure of Interest Rates: A Survey." *Derivatives and Financial Mathematics*, John Price (ed.), Nova Science Publishers, 1997.

"Strategic Under-Investment, Managerial Entrenchment and Ownership Structure of a Firm." With Suman Banerjee.

"Option Pricing Using Fourier Transforms: A Numerically Efficient Simplification"

"Testing Interest Rate Models: What Do Futures and Options Data Tell Us?"

"Hedging in the Presence of Transactions Costs: Portfolios."

COURSES TAUGHT

Continuous Time Asset Pricing (Ph.D.'s, Wisconsin)
Fixed Income (M.B.A.'s, Wisconsin)
Futures and Options (Undergraduates and M.B.A.'s, Wisconsin)
International Finance (Undergraduates, Wisconsin)
Corporate Finance (Undergraduates, Iowa)
Investments (Undergraduates, Iowa)

DISSERTATION COMMITTEES

RuthAnn Melbourne (Finance, Wisconsin)
Clemens Mulluer (Finance, Wisconsin)
Miguel Ferreira (Finance, Wisconsin)
James Basney (Computer Science, Wisconsin)

RESEARCH GRANTS, FELLOWSHIPS AND AWARDS

2001–2002	University of Wisconsin - Madison Graduate School Research Grant
1997	Outstanding Teaching Assistant Award, University of Iowa.
1995–1996	Ponder Fellowship, University of Iowa
1992–1993	Ponder Fellowship, University of Iowa.

RECENT PRESENTATIONS

Bar Association of San Francisco, "Derivatives and Insolvency" (2009) (with Suzzanne Uhland from O'Melveny & Myers LLP).

IQPC's "3rd Securities Litigation Conference," panel on Subprime Credit Crisis (2007).

Federal Reserve Bank of Atlanta's "Modern Financial Institutions, Financial Markets, and Systemic Risk Conference" (2006).

PROFESSIONAL ACTIVITIES

Past and Current Member, American Finance Association, Western Finance Association, and European Finance Association.

EXPERT ASSIGNMENTS

Wells Fargo Bank, N.A. v. Homebanc Corporation, District of Delaware, 07-51740, Affidavit filed June 16, 2014; Deposition August 6, 2014; Trial Testimony January 27, 2015.

Ambac Assurance Corporation v. EMC Mortgage Corporation, et al, Supreme Court of the State of New York, 650421/2011, Expert Report filed December 23, 2014.

Syncora Guarantee Inc. v. EMC Mortgage Corporation, Southern District of New York, 09-3106, Expert Report filed December 10, 2013.

In the Matter of the Rate Application of Mercury Casualty Company, Applicant, File Number PA-2009-00009, Expert Report filed March 20, 2012; Hearing Testimony April 2, 2012.

Exhibit 2

Documents Relied Upon

	Document Description	Date
	Complaints	
[1]	Consolidated Third Amended Complaint, Dalton Petrie, Plaintiff, against Electronic Game Card, Inc., et al., United States District Court, Central District of California, Southern Division	November 21, 2011
[2]	First Amended Complaint, Penny Pace, Plaintiff, against Timothy Quintanilla, et al., United States District Court, Central District of California, Southern Division	October 14, 2014
	Expert Report and Deposition	
[3]	Expert Report of Howard J. Mulcahey	March 2, 2015
[4]	Deposition of Howard Mulcahey	May 27, 2015
	Court Documents	
[5]	Court Decision, Rose Cammer, et al., Plaintiffs, against Bruce M. Bloom, et al., United States District Court, D. New Jersey	April 19, 1989
[6]	Court Decision, Douglas O'Neil, et al., Plaintiffs, against Curtis Appel, et al., United States District Court, W.D. Michigan, Southern Division	February 29, 1995
[7]	Order on Motion for Class Certification, Cheney, et al., Plaintiffs, v. CyberGuard, et. al, United States District Court – Southern District of Florida	August 14, 2002
[8]	Memorandum and Order, In Re Polymedica Corporation Securities Litigation, United States District Court – District of Massachusetts	September 28, 2006
	Electronic Game Card U.S. Securities and Exchange Commission Filings	
[9]	Form 10-KSB for the Fiscal Year Ended December 31, 2006	April 5, 2007
[10]	Form 10-QSB for the Quarterly Period Ended March 31, 2007	May 15, 2007
[11]	Form 10-QSB for the Quarterly Period Ended June 30, 2007	August 14, 2007
[12]	Form 10-QSB for the Quarterly Period Ended September 30, 2007	November 14, 2007
[13]	Form 10-KSB for the Fiscal Year Ended December 31, 2007	March 26, 2008
[14]	Form 10-Q for the Quarterly Period Ended March 31, 2008	May 14, 2008
[15]	Form 10-Q for the Quarterly Period Ended June 30, 2008	August 8, 2008
[16]	Form 10-Q for the Quarterly Period Ended September 30, 2008	November 17, 2008
[17]	Form 10-K for the Fiscal Year Ended December 31, 2008	March 24, 2009
[18]	Form 10-Q for the Quarterly Period Ended March 31, 2009	May 15, 2009
[19]	Form 10-Q for the Quarterly Period Ended June 30, 2009	August 14, 2009
[20]	Form 10-Q for the Quarterly Period Ended September 30, 2009	November 20, 2009
	Research and Working Papers	
[21]	E. Fama, "Efficient Capital Markets: A Review of Theory and Empirical Work," The Journal of Finance	May, 1970
[22]	R. Roll, "A Possible Explanation of the Small Firm Effect," The Journal of Finance	September, 1981
[23]	Gould, J. and A. Kleidon, "Symposium: Securities Litigation Reform: Market Maker Activity on NASDAQ: Implications for Trading Volume," Stanford Journal of Law, Business & Finance	Fall 1994
[24]	Atkins, A. and E. Dyl, "Market Structure and Reported Trading Volume: NASDAQ versus the NYSE," Journal of Financial Research	Fall 1997
[25]	Harris J., Panchapagesan V. and I. Werner, "Off but Not Gone: A Study of Nasdaq Delistings," Fisher College of Business Working Paper Series	March 4, 2008
[26]	Ang A., Shtauber A. and P. Tetlock, "Asset Pricing in the Dark: The Cross Section of OTC Stocks," Review of Financial Studies	2013
[27]	Eraker B. and M. Ready, "Do Investors Overpay for Stocks with Lottery-like Payoffs? An Examination of Returns of OTC Stocks," Journal of Financial Economics	April, 2014
	Books	
[28]	Sharpe W. and G. Alexander, "Investments," Prentice Hall	1990
[29]	Campbell J., Lo A. and A. C. MacKinlay, "The Econometrics of Financial Markets," Princeton University Press	1997

Exhibit 2

Documents Relied Upon

	Document Description	Date
	Analyst Reports	
[30]	Roth Capital Partners, "EGMI: Suspending Coverage"	February 19, 2010
[31]	Merriman Curhan Ford, "Suspending Coverage of EGMI at Neutral"	February 19, 2010
	Other Documents	
[32]	U.S. Securities and Exchange Commission, "Changeover to the SEC's New Smaller Reporting Company System by Small Business Issuers and Non-Accelerated Filer Companies; A Small Entity Compliance Guide"	January 25, 2008
[33]	Letter: from TABB Group, LLC to U.S. Securities and Exchange Commission, "RE: File No. S7-27-09," "Release No. 34-60997," "Unitended [sic] Consequences of Market Structure Regulation"	December 8, 2009
[34]	U.S. Securities and Exchange Commission, "Over-the-Counter Market"	May 9, 2013
[35]	U.S. Securities and Exchange Commission, "Penny Stock Rules"	May 9, 2013
[36]	U.S. Securities and Exchange Commission, "Self-Regulatory Organizations; Financial Industry Regulatory Authority, Inc.; Notice of Filing of a Proposed Rule Change Relating to Quotation Requirements for Unlisted Equity Securities and Deletion of the Rules Related to the OTC Bulletin Board Service"	July 9, 2014
	Data Sources and Other Documents	
[37]	Bloomberg	
[38]	Thomson Financial	

Exhibit 3

Autocorrelation Analysis of EGC's Stock Returns: Annual Periods

	Beginning Date	End Date	Autocorrelation Coefficient	p-value
	[a]	[b]	[c]	[d]
	Panel A: Actual Returns			
[1]	5-Apr-06	4-Apr-07	-20.12%	0.17%
[2]	5-Apr-07	4-Apr-08	2.19%	72.88%
[3]	5-Apr-08	4-Apr-09	-4.93%	43.55%
[4]	5-Apr-09	18-Feb-10	21.04%	0.19%
	Panel B: Excess Returns			
[5]	5-Apr-06	4-Apr-07	-20.12%	0.17%
[6]	5-Apr-07	4-Apr-08	3.59%	57.07%
[7]	5-Apr-08	4-Apr-09	-3.73%	55.60%
[8]	5-Apr-09	18-Feb-10	18.31%	0.71%

Notes and Sources:

See Report for detailed explanation of the methodology.

Panel A: The autocorrelation coefficient, in [c], is estimated using a regression of the daily EGC actual return on a constant term and the daily EGC actual return on the previous day. The autocorrelation regression period is from [a] through [b].

Panel B: The autocorrelation coefficient is estimated using a regression of the daily EGC excess return on a constant term and the daily EGC excess return on the previous day. The daily EGC excess, or "market-adjusted," return is computed as the difference between the daily EGC actual return and the daily EGC predicted return from a market model regression. The market model regression is a regression of the daily EGC actual return on a constant term and the daily market index return over the period from [a] through [b]. The market index is the NASDAQ Composite Index.

Data used for the analysis is obtained from Bloomberg.

[a] Beginning of market model regression and autocorrelation regression period.
[b] End of market model regression and autocorrelation regression period.
[c] Estimate of the autocorrelation coefficient in the autocorrelation regression.
[d] P-value of the t-statistic for the autocorrelation coefficient in the autocorrelation regression.

Exhibit 4

Autocorrelation Analysis of EGC's Stock Returns: Period Split by Market Index Peak and Trough

	Beginning Date	End Date	Autocorrelation Coefficient	p-value
	[a]	[b]	[c]	[d]
	Panel A: Actual Returns			
[1]	5-Apr-06	31-Oct-07	-11.81%	2.00%
[2]	1-Nov-07	9-Mar-09	-11.41%	3.61%
[3]	10-Mar-09	18-Feb-10	22.00%	0.07%
	Panel B: Market-Adjusted Returns			
[4]	5-Apr-06	31-Oct-07	-11.55%	2.29%
[5]	1-Nov-07	9-Mar-09	-10.70%	4.92%
[6]	10-Mar-09	18-Feb-10	22.01%	0.07%

Notes and Sources:

See Report for detailed explanation of the methodology.

Panel A: The autocorrelation coefficient, in [c], is estimated using a regression of the daily EGC actual return on a constant term and the daily EGC actual return on the previous day. The autocorrelation regression period is from [a] through [b].

Panel B: The autocorrelation coefficient is estimated using a regression of the daily EGC excess return on a constant term and the daily EGC excess return on the previous day. The daily EGC excess, or "market-adjusted," return is computed as the difference between the daily EGC actual return and the daily EGC predicted return from a market model regression. The market model regression is a regression of the daily EGC actual return on a constant term and the daily market index return over the period from [a] through [b]. The market index is the NASDAQ Composite Index.

Data used for the analysis is obtained from Bloomberg.

[a] Beginning of market model regression and autocorrelation regression period.

[b] End of market model regression and autocorrelation regression period.

[c] Estimate of the autocorrelation coefficient in the autocorrelation regression.

[d] P-value of the t-statistic for the autocorrelation coefficient in the autocorrelation regression.

Exhibit 5
Institutional Holdings

	Institution	Reporting Period														Class Period	Feb. 19, 2010 - May 18, 2010
		31-Mar-07	30-Jun-07	30-Sep-07	31-Dec-07	31-Mar-08	30-Jun-08	30-Sep-08	31-Dec-08	31-Mar-09	30-Jun-09	30-Sep-09	31-Dec-09	31-Mar-10	30-Jun-10		
	[a]	[b]	[c]	[d]	[e]	[f]	[g]	[h]	[i]	[j]	[k]	[l]	[m]	[n]	[o]	[p]	[q]
	Panel A: Reported Holdings																
[1]	Manatuck Hill Partners, LLC	0	0	0	0	0	0	0	0	0	0	0	5,333,505	5,333,505	5,333,505		
[2]	Pequot Capital Management, Inc.	3,000,000	3,000,000	3,000,000	5,415,640	4,705,882	4,705,882	9,385,874	8,538,234	8,538,234	0	3,980,582	3,980,582	3,980,582	3,980,582		
[3]	Tricadia Capital Management, LLC	0	0	0	0	0	0	0	3,078,000	3,078,000	3,078,000	3,078,000	3,603,872	3,603,872	3,603,872		
[4]	Ingalls & Snyder LLC (Asset Management)	1,489,000	1,489,000	1,489,000	3,113,500	3,113,500	3,113,500	3,133,500	3,295,500	3,295,500	2,938,700	2,938,700	2,938,700	2,938,700	2,938,700		
[5]	James Investment Research Inc.	0	0	0	0	0	0	0	0	0	0	0	0	0	31,745		
[6]	Cougar Capital LLC	0	0	0	0	0	0	0	0	0	25,000	50,000	40,000	25,000	25,000		
[7]	Ativo Capital Management, LLC	0	0	0	0	0	0	0	0	0	0	110,484	0	0	0		
[8]	Bjurman, Barry & Associates	0	0	0	0	0	181,000	221,000	149,000	22,500	22,500	0	0	0	0		
[9]	Century Management	0	0	0	0	0	0	0	0	22,500	0	0	0	0	0		
[10]	Force Capital Management LLC	955,800	955,800	955,800	955,800	0	0	0	0	0	0	0	0	0	0		
[11]	Glenmede Investment Management LP	0	0	0	3,700	0	0	0	0	0	0	0	0	0	0		
[12]	Heidtke & Co., Inc.	0	0	0	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	484,000	0	0		
[13]	MindShare Capital Management, LLC	0	0	0	0	0	0	0	0	0	67,540	80,115	77,090	83,300	0		
[14]	Scientific Games Corp	2,171,594	0	0	0	0	0	0	0	0	0	0	0	0	0		
[15]	Sterling Johnston Capital Management, L.P.	0	0	0	610,800	0	0	0	0	0	0	0	0	0	0		
[16]	Trafelet Brokaw Capital Management, L.P.	4,517,647	4,517,647	4,517,647	4,517,647	4,517,647	4,517,647	4,517,647	0	0	0	0	0	0	0		
[17]	Yana Consultants	1,537,500	0	0	0	0	0	0	0	0	0	0	0	0	0		
[18]	**Total Shares Held by Institutions**	13,671,541	9,962,447	9,962,447	15,101,087	12,821,029	13,002,029	17,742,021	15,544,734	15,440,734	6,615,740	10,721,881	16,457,749	15,964,959	15,913,404		
[19]	**Total Shares Outstanding**	44,168,683	44,168,683	44,168,683	48,011,851	50,031,766	51,439,633	53,205,975	57,137,661	59,358,702	60,843,297	68,353,451	70,086,709	70,086,709	70,086,709		
[20]	**Holdings of Institutions % of Shares Outstanding**	30.95%	22.56%	22.56%	31.45%	25.63%	25.28%	33.35%	27.21%	26.01%	10.87%	15.69%	23.48%	22.78%	22.71%		
[21]	**Number of Institutions Holding Stock**	6	4	4	7	4	5	5	5	6	6	7	7	6	6	17	
	Panel B: Changes in Reported Institutional Holdings																
[22]	Manatuck Hill Partners, LLC		0	0	0	0	0	0	0	0	0	0	5,333,505	0	0		
[23]	Pequot Capital Management, Inc.		0	0	2,415,640	709,758	0	4,679,992	847,640	0	8,538,234	3,980,582	0	0	0		
[24]	Tricadia Capital Management, LLC		0	0	0	0	0	0	3,078,000	0	0	0	525,872	0	0		
[25]	Ingalls & Snyder LLC (Asset Management)		0	0	1,624,500	0	0	20,000	162,000	0	356,800	0	0	0	0		
[26]	James Investment Research Inc.		0	0	0	0	0	0	0	0	0	0	0	0	31,745		
[27]	Cougar Capital LLC		0	0	0	0	0	0	0	0	25,000	25,000	10,000	15,000	0		
[28]	Ativo Capital Management, LLC		0	0	0	0	0	0	0	0	0	110,484	110,484	0	0		
[29]	Bjurman, Barry & Associates		0	0	0	0	181,000	40,000	72,000	126,500	0	22,500	0	0	0		
[30]	Century Management		0	0	0	0	0	0	0	22,500	22,500	0	0	0	0		
[31]	Force Capital Management LLC		0	0	0	955,800	0	0	0	0	0	0	0	0	0		
[32]	Glenmede Investment Management LP		0	0	3,700	3,700	0	0	0	0	0	0	0	0	0		
[33]	Heidtke & Co., Inc.		0	0	484,000	0	0	0	0	0	0	0	0	484,000	0		
[34]	MindShare Capital Management, LLC		0	0	0	0	0	0	0	0	67,540	12,575	3,025	6,210	83,300		
[35]	Scientific Games Corp		2,171,594	0	0	0	0	0	0	0	0	0	0	0	0		
[36]	Sterling Johnston Capital Management, L.P.		0	0	610,800	610,800	0	0	0	0	0	0	0	0	0		
[37]	Trafelet Brokaw Capital Management, L.P.		0	0	0	0	0	0	4,517,647	0	0	0	0	0	0		
[38]	Yana Consultants		1,537,500	0	0	0	0	0	0	0	0	0	0	0	0		
[39]	**Total Change in Shares Held by Institutions**		3,709,094	0	5,138,640	2,280,058	181,000	4,739,992	8,677,287	149,000	9,010,074	4,151,141	5,982,886	505,210	115,045	44,639,427	620,255
[40]	**Total Volume**		26,095,638	21,820,422	15,330,373	22,995,178	15,610,519	13,407,029	25,334,533	16,455,410	31,466,707	28,562,324	40,256,006	34,038,029	7,613,023	298,985,191	20,874,697
[41]	**Change in Shares Held by Institutions as % of Total Volume**															14.93%	2.97%

Exhibit 5

Institutional Holdings

Notes and Sources:

Data from Thomson Financial and Bloomberg.

Institutional investor is defined as any investor not categorized as "Individual Investor" by Thomson Financial.

[a] Name of institutional investor in EGC from Thomson Financial.

Columns [b] through [o]:

[1] - [17] Holdings reported by institutional investor.
[18] = Sum of [1] through [17].
[19] U.S. Securities and Exchange Commission Forms 10-Q and Forms 10-QSB
[20] = [18] / [19]
[21] Number of institutional investors with non-zero holdings of EGC stock.
[22] - [38] = Absolute value of change in holdings (lines [1] through [17]) from previous to current quarter.
[39] = Sum of [22] through [38].
[40] Total volume for quarter ending on the indicated date. Bloomberg.
For June 30, 2007, volume is counted only from April 5, 2007 through June 30,2007.
For June 30, 2010, volume is counted only from March 31, 2010 through May 18, 2010.

Columns [p] and [q]:

[21][p] Total number of unique institutional investors in [1][a] through [17][a].
[39][p] = Sum of [39][c] through [39][o].
[40][p] = Sum of [40][c] through [40][o].
[41][p] = [39][p] / [40][p].

[39][q] = [39][n] + [39][o]; This is the total reported change in institutional holdings over the first two quarters of 2010.
[40][q] = Sum of market volumes on all days from March 5, 2010 through May 18, 2010. Bloomberg.
[41][q] = [39][q] / [40][q].

Exhibit 6

Adjusted F-Test Two Sample for Variances of Excess Returns on Earnings Days and Non-Earnings Days from April 5, 2007 to May 19, 2010

		Mean [a]	Variance [b]	Observations [c]	Degrees of freedom [d]	F-statistic [e]	P(F>= F-statistic) One-Tail [f]	F-statistic Critical Value (One-Tail) [g]
[1]	Non-Earnings Days	-0.36%	0.47%	766	765			
	<u>Test in Mulcahey Report Exhibit 10</u>							
[2]	Earnings Days	6.63%	1.34%	11	10	2.86	0.17%	1.84
	<u>Adjusted Test in Mulcahey Report Exhibit 10</u>							
[3]	Earnings Days	2.24%	0.40%	9	8	0.84	56.38%	1.95

Notes and Sources:

[1] Mulcahey Report, Exhibit 10.
[2] Mulcahey Report, Exhibit 10.
[3][a] = Appendix A, [12][d].
[3][b] = Appendix A, [13][d].
[3][c] = Appendix A, [14][d].
[3][d] = [3][c] - 1.
[3][e] = [3][b] / [1][b].
[3][f] = 1 - Probability that a variable with F-distribution (with d.f. in [1][d] and [3][d]) is larger than or equal to [3][e].
[3][g] = Value for which the probability of a variable with F-distribution (with d.f. in [1][d] and [3][d]) is larger than or equal to 95%.

Appendix A

Sample Statistics of Excess Returns on EGC Earnings Days

	Earnings Dates	Excess Return	All Earnings Days	Excluding 5/16/2007 and 8/14/2007
	[a]	[b]	[c]	[d]
[1]	5/16/2007	32.31%		
[2]	8/14/2007	20.42%		
[3]	11/14/2007	10.98%		
[4]	3/26/2008	-0.90%		
[5]	5/15/2008	0.93%		
[6]	8/8/2008	-8.97%		
[7]	11/12/2008	10.44%		
[8]	3/17/2009	3.44%		
[9]	5/14/2009	5.05%		
[10]	8/7/2009	-2.93%		
[11]	11/12/2009	2.11%		
[12]	Average		6.63%	2.24%
[13]	Variance		1.34%	0.40%
[14]	Observations		11	9

Notes and Sources:

[a] Mulcahey Report, Appendix A.
[b] Mulcahey Report, Appendix A.

[12][c] = Average ([1][b]:[11][b]).
[12][d] = Average ([3][b]:[11][b]).
[13][c] = Variance ([1][b]:[11][b]).
[13][d] = Variance ([3][b]:[11][b]).
[14][c] = Count ([1][b]:[11][b]).
[14][d] = Count ([3][b]:[11][b]).

Exhibit 7

Adjusted Comparison of Difference in Absolute Value of Excess Returns on News Days vs. Non-News Days for Electronic Game Card, Inc. Common Stock from April 5, 2007 to May 19, 2010

		Number of Days [a]	Average Abs. Value of Excess Returns [b]	Std. Dev. Of Abs. Value of Excess Returns [c]	Sum of Squared Abs. Value of Excess Returns [d]	Difference of means [e]	T-statistic [f]	Degrees of Freedom [g]	p-Value [h]
[1]	Non-News Days	727	3.9%	4.2%					
	Test in Mulcahey Report Exhibit 8								
[2]	News Days	50	8.8%	14.6%	143.0%	5.0%	2.4	50	2.02%
	Adjusted Test in Mulcahey Report Exhibit 8								
[3]	News Days	43	4.5%	4.3%	16.7%	0.6%	1.0	47	34.41%

Notes and Sources:

[1] Mulcahey Report, Exhibit 8.
[2] Mulcahey Report, Exhibit 8.
[2][d] = ([2][a]-1)*[2][c]^2+[2][a]*[2][b]^2.
[2][g] = ([2][c]^2/[2][a]+[1][c]^2/[1][a])^2/((([2][c]^2)/[2][a])^2/([2][a]-1)+(([1][c]^2/[1][a])^2/([1][a]-1)))
[3][a] = [2][a] - Appendix B, [8][a].
[3][b] = ([2][a]*[2][b] - Appendix B, [9][a]) / [3][a].
[3][c] = sqrt(([2][d] - Appendix B, [10][a] - [3][a]*[3][b]^2)/([3][a] - 1)).
[3][d] = [2][d] - Appendix B, [10][a].
[3][e] = [3][b] - [1][b].
[3][f] = [3][e] / sqrt([3][c]^2/[3][a] + [1][c]^2/[1][a]).
[3][g] = ([3][c]^2/[3][a]+[1][c]^2/[1][a])^2/((([3][c]^2)/[3][a])^2/([3][a]-1)+(([1][c]^2/[1][a])^2/([1][a]-1))).
[3][h] = 2*(1-CDF of T-distribution with degrees of freedom in [3][g]).

Appendix B

Sample Statistics of Excess Returns on EGC Earnings and Alleged Disclosure Dates

		Absolute Value of Excess Return
		[a]
[1]	5/16/2007 (Earnings)	32.31%
[2]	8/14/2007(Earnings)	20.42%
[3]	2/10/2010 (Disclosure)	16.37%
[4]	2/12/2010 (Disclosure)	0.19%
[5]	3/5/2010 (Disclosure)	56.20%
[6]	3/19/2010 (Disclosure)	48.20%
[7]	5/19/2010 (Disclosure)	73.68%
[8]	Count	7
[9]	Sum	247.36%
[10]	Sum of Squares	126.38%

Notes and Sources:

[1]-[7] Mulcahey Report, Appendix A.

[8] = Count ([1][a]:[7][a]).

[9] = Sum ([1][a]:[7][a]).

[10] = Sum of squared values of ([1][a]:[7][a]).

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UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

DALTON PETRIE, **Plaintiff,** **vs.** **ELECTRONIC GAME CARD, INC.; LEE J. COLE; LINDEN BOYNE; KEVIN DONOVAN; PAUL FARRELL; EUGENE CHRISTIANSEN; ANNA HOUSSELS; ESTATE OF LORD LEONARD STEINBERG,** **Defendants.**	**Case No.: SACV 10-0252 DOC(RNBx)** **ORDER GRANTING MOTION FOR CLASS CERTIFICATION [274]**

Before the Court is Plaintiffs' Motion for Class Certification ("Mot.") (Dkt. 274).

I. Background

This lawsuit is a putative securities fraud class action against Defendants Electronic Game Card, Inc. ("EGC"), Linden Boyne ("Boyne"), Lee Cole ("Cole"), Eugene Christiansen ("Christiansen"), Kevin Donovan ("Donovan"), Paul Farrell ("Farrell"), Anna Houssels ("Houssels"), and the Estate of Lord Leonard Steinberg ("Estate of Lord Steinberg"). In the Consolidated Third Amended Complaint ("TAC") (Dkt. 189), the operative complaint, Plaintiffs allege that Defendants EGC, Cole, and Boyne violated Section 10(b) and Rule 10b-5 of the Securities Exchange Act and that Defendants Cole, Boyne, Christiansen, Donovan, Farrell, Houssels, and the Estate of Lord Steinberg should be held liable as control persons under Section 20(a) of the Securities Exchange Act.

The factual allegations in Plaintiffs' TAC were discussed in the Court's February 5, 2015 order. That discussion is repeated here for ease of reference:

> During the relevant times, [EGC] was a small company of no more than 10 employees whose business consists of designing and manufacturing "scratch off" devices for various casinos, lotteries and other gaming establishments primarily in the United Kingdom and Europe. TAC ¶ 2. Nearly all of [EGC]'s reported revenues were allegedly derived from its UK and European operating subsidiary, Electronic Game Card, Ltd. ("EGCL"). *Id.*
>
> On February 19, 2010, the SEC halted trading in EGC's stock because of questions regarding the accuracy of EGC's financial disclosures about its assets to investors. That same day, EGC announced that its auditor Mendoza & Berger ("M&B") had withdrawn its audit opinions of EGC's financial statements for FY 2006, 2007, and 2008 because of "irregularities in the audit confirmation of a bank account represented to M&B as having been held by [EGCL], a wholly owned subsidiary of [EGC]..." *Id.* ¶¶ 6-7. [On May 18, 2010, EGC announced that its Board of Directors had concluded that its financial statements for FY 2006, 2007, and 2008 could no longer be relied upon. *Id.* ¶¶ 13-15.] Subsequently, EGC's stock was delisted and EGC ultimately filed for Chapter 7 bankruptcy, causing investors to lose their entire investment in EGC. *Id.* ¶¶ 17-19.
>
> Plaintiffs allege that, during the class period (April 5, 2007 to May 18, 2010), EGC engaged in a fraud to conceal from and misrepresent to EGC's investors the true financial condition and performance of EGC. *Id.* ¶¶ 1, 3. The alleged misrepresentations included statements about EGC's finances made in EGC's 2006, 2007, and 2008 10KSBs; quarterly reports from 2007, 2008, and 2009; earnings conference calls in May, August, and November 2009; and a press release dated August 6, 2009. *Id.* ¶¶ 92-132. Plaintiffs allege that EGC's statements regarding its financial results were false and misleading in two main ways, described below.
>
> . . . .
>
> First, EGC's statements were misleading because EGC falsely reported incrementally increasing cash balances when in fact EGC did not possess any of the millions of dollars it claimed it had. *Id.* ¶ 4. M&B's internal audit documents showed that Boyne forged audit confirmation forms, falsely representing to M&B and to the public that EGCL/EGC had millions of dollars in bank account #207103 with Credit Suisse in Gibraltar when in fact EGC only had an account numbered #208163 and it had never had any assets in it. *Id.* ¶¶ 8, 73-75.
>
> . . . .

> Second, EGC's statements were misleading because, according to Boyne and Cole, EGC's ownership of EGCL was subject to a secret 2002 agreement ("2002 Secret Agreement"). Under the agreement, EGC agreed not to make any changes to EGCL's articles of associations or its board of directors unless changes were authorized in writing by a majority of the then-existing board of EGCL (Boyne and his entity Greenfield Capital International Limited ("Greenfield")). If EGC violated this clause, ownership of EGCL would revert to a third party, the unnamed original sellers of EGCL. *Id.* ¶ 77. According to Boyne and Cole, Donovan's and Christiansen's decision to remove EGCL's board (and appoint themselves) without the required approval of EGCL caused EGCL ownership to revert back to EGCL's original sellers, such that EGC no longer owned EGCL. *Id.* ¶ 78.
>
> Assuming that the 2002 Secret Agreement really existed, under GAAP, EGC's financial results should not have been consolidated with EGCL's because EGC did not have the requisite degree of control over EGCL. *Id.* ¶¶ 79-83. Plaintiffs consequently aver that any statements regarding EGC's financial results and assets which included EGCL's were materially false and misleading. *E.g.*, *id.* ¶¶ 95, 98, 101, 116, 121, 125.
>
> Plaintiffs allege that Cole and Boyne knowingly concealed the 2002 Secret Agreement from EGC's auditor M&B because they knew that, if M&B knew of the agreement, M&B would not allow EGC to consolidate EGCL's assets into EGC's financial statements. *Id.* ¶ 84. Part of the alleged concealment involved not turning over to M&B minutes from a February 1, 2006 board meeting where the board allegedly discussed the 2002 Secret Agreement. Alternatively, Plaintiffs allege that Cole and Boyne fabricated the February 1, 2006 minutes to cover up their fraud. *Id.* ¶ 91.

Order Denying Defs.' Mot. to Dismiss Consol. Third Amended Compl. & Mot. for J. on the Pleadings, Feb. 5, 2015 (Dkt. 268), at 2-4.

This lawsuit was filed on March 2, 2010. Compl. (Dkt. 1). Pursuant to the Private Securities Litigation Reform Act ("PSLRA"), the Court appointed Dr. Thomas Lee, Margaret Yu, and Scott Lovell as Lead Plaintiffs on June 4, 2010 (Dkt. 11).

The Lead Plaintiffs filed the instant Motion on March 2, 2015 (Dkt. 274). Defendants Farrell, Houssels, and Estate of Lord Steinberg filed oppositions on June 1 (Dkts. 289, 291, 292, 293). Plaintiffs filed a reply on June 22 (Dkt. 296). Oral argument was heard on July 21 (Dkt. 302).

II. Legal Standard

Courts may certify a class action only if it satisfies all four requirements identified in Federal Rule of Civil Procedure 23(a). *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 614 (1997). Rule 23(a) requires Plaintiffs to show the following: (1) the class is so "numerous" that joinder of all members individually is impracticable; (2) there are questions of law or fact "common" to the class; (3) the claims or defenses of the class representatives are "typical" of the claims or defenses of the class; and (4) the person representing the class is able to fairly and "adequately" protect the interests of all class members. Fed. R. Civ. P. 23(a). These requirements are commonly referred to as "numerosity," "commonality," "typicality," and "adequacy." *United Steel, Paper & Forestry, Rubber, Mfg. Energy, Allied Indus. & Serv. Workers Int'l Union, AFL-CIO v. Conoco Phillips Co.*, 593 F.3d 802, 806 (9th Cir. 2010).

In addition, the class must satisfy one of the three subdivisions of Rule 23(b). *Id.* Here, Plaintiffs seeks to certify a class under Rule 23(b)(3), which requires that common questions of law or fact predominate over individual questions, and that class resolution be superior to other available methods of resolution. Fed. R. Civ. P. 23(b)(3).

"Rule 23 does not set forth a mere pleading standard." *Wal-Mart Stores, Inc. v. Dukes*, 31 S. Ct. 2541, 2551 (2011). A party seeking class certification must affirmatively demonstrate compliance with Rule 23—that is, the party must be prepared to prove that there are *in fact* sufficiently numerous parties and common questions of law or fact. *Id.*

In resolving a class certification motion, it is inevitable that the Court will touch on the merits of a plaintiff's claims. *See Wal-Mart*, 131 S. Ct. at 2551-52 ("The class determination generally involves considerations that are enmeshed in the factual and legal issues comprising the plaintiff's causes of action.") (quoting *Gen. Tel. Co. of Sw. v. Falcon*, 457 U.S. 147, 156 (1982)). But, "Rule 23 grants courts no license to engage in free-ranging merits inquiries at the certification stage." *Amgen, Inc. v. Conn. Ret. Plans & Trust Funds*, 133 S. Ct. 1184, 1194-95 (2013). Accordingly, any merits consideration must be limited to those issues necessary to deciding class certification. *See id.* at 1195 ("Merits questions may be considered to the extent—

but only to the extent—that they are relevant to determining whether the Rule 23 prerequisites for class certification are satisfied.").

III. Discussion

Plaintiffs seek to certify the following class:

> All persons or entities that purchased or otherwise acquired the publicly traded common stock Electronic Game Card, Inc. ("EGC") between April 5, 2007 and May 18, 2010, inclusive, and who held such shares on or after February 10, 2010. Excluded from the Class are Defendants, the present and former officers and directors of EGC and any subsidiary thereof, members of their immediate families and their legal representatives, heirs, successors or assigns and any entity in which Defendants have or had a controlling interest.

Mot. at 1.

A. Requirements of Rule 23(a)

1. Numerosity

A class must be "so numerous that joinder of all members is impracticable." Fed. R. Civ. P. 23(a)(1). Defendants do not dispute that the proposed class satisfies the numerosity requirement. In addition, the Court finds that the proposed class, numbering in the hundreds, satisfies the numerosity requirement, which is presumptively satisfied when there are at least forty members. *See Avilez v. Pinkerton Gov't Servs.*, 286 F.R.D. 450, 456 (C.D. Cal. 2012). Therefore, the Court finds that Rule 23(a)(1) is satisfied.

2. Commonality

Rule 23(a)(2) requires courts to perform a "rigorous analysis" to determine whether "there are questions of law or fact common to the class," but "even a single common question will do." *See Wal-Mart*, 131 S. Ct. at 2551, 2556 (citations and quotations omitted); *Ellis v. Costco Wholesale Corp.*, 657 F.3d 970, 981 (9th Cir. 2011). Certification is appropriate where the legality of a particular policy presents a "significant question of law" that is "apt to drive the resolution of the litigation." *Abdullah v. U.S. Sec. Assoc.*, 731 F.3d 952, 963 (9th Cir. 2013) (citing *Wal-Mart*, 131 S. Ct. at 2551).

Defendants do not dispute that common questions of fact and law exist in this case. The Court agrees with Plaintiffs that these common questions include (1) whether Defendants

violated federal securities laws; (2) whether Defendants made statements to investors during the Class Period that misrepresented or omitted material information about the accuracy of EGC's financial situation; (3) whether Defendants made the misrepresentations and omissions with scienter; and (4) the proper measure of damages. Mot. at 7. Therefore, the Court finds that Rule 23(a)(2) is satisfied.

3. Typicality and Adequacy

A class representative's claims or defenses must be "typical of the claims or defenses of the class." Fed. R. Civ. P. 23(a)(3). Courts assess typicality by determining whether the class representatives and the rest of the putative class have similar injuries and conduct. *Hanon v. Dataproducts Corp.*, 976 F.2d 497, 508 (9th Cir. 1992).

A class representative must also be able to "fairly and adequately protect the interests of the class." Fed. R. Civ. P. 23(a)(4). In determining adequacy, courts resolve two questions: "(1) do the named plaintiffs and their counsel have any conflicts of interest with other class members and (2) will the named plaintiffs and their counsel prosecute the action vigorously on behalf of the class?" *Hanlon v. Chrysler Corp.*, 150 F.3d 1011, 1020 (9th Cir. 1998).

"[C]lass certification is inappropriate where a putative class representative is subject to unique defenses which threaten to become the focus of the litigation." *Hanon*, 976 F.2d at 508. Unique defenses can go to either the typicality or adequacy of class representatives. *Gary Plastic Packaging Corp. v. Merrill Lynch, Pierce, Fenner & Smith, Inc.*, 903 F.2d 176, 180 (2d Cir. 1990).

Here, Defendants argue that each of the Lead Plaintiffs is subject to unique defenses such that they are atypical of other class members and are inadequate representatives. The Court examines each Lead Plaintiff in turn.

a. Margaret Yu

Defendants object to Margaret Yu as a class representative because she did not make investment decisions but instead relied on her husband Dr. Thomas Lee to do so. She did not speak with her husband about the EGC stock transactions on her E*Trade account. Yu Dep., May 12, 2015, 16:17-25, 41:18-42:14, 44:17-45:20. She had never heard of EGC before her

husband told her about EGC at the time of or after the stock purchases. *Id.* at 26:9-21. Based on these facts, Defendants argue that Ms. Yu cannot prove that she engaged in a "purchase or sale" within the meaning of the Securities Exchange Act, nor can she prove that she purchased or sold securities in reliance on Defendants' alleged misrepresentations or on the integrity of EGC's market price.

Some courts have held that a plaintiff must at least have some de minimis involvement in the investment decision to bring a securities fraud claim. *Medline Indus., Inc. Emp. Profit Sharing & Ret. Trust v. Blunt, Ellis & Loewi, Inc.*, No. 89 C 4851, 1993 WL 13436, at *2 (N.D. Ill. Jan. 21, 1993); *see also Boyer v. Kruger*, No. 8CV96-00495, 1998 WL 35177818, at *3 (D. Neb. Feb. 4, 1998) (in a suit brought by a married couple and their children, granting summary judgment against the wife and children because they never made nor participated in making any decision to sell their stock, having delegated complete authority to the husband). These cases largely rely on two Seventh Circuit decisions which involved plaintiffs who relied on brokers and dealers to make investments for them and who later sued those brokers and dealers under Section 10(b) and Rule 10b-5 after discovering that the brokers and dealers had lost their money through poor by investment decisions. *Congregation of the Passion, Holy Cross Province v. Kidder Peabody & Co.*, 800 F.2d 177 (7th Cir. 1986); *O'Brien v. Cont'l Ill. Nat. Bank & Trust Co. of Chi.*, 593 F.2d 54 (7th Cir. 1979). The Seventh Circuit held that the plaintiffs' securities fraud claims could not lie because Section 10(b) and Rule 10b-5 prohibited misleading statements and omissions "in connection with" a securities transaction. In those cases, the alleged misrepresentations and omissions affected the plaintiffs' decision whether to maintain fiduciary or agency relationships with the defendants, but they did not affect the plaintiffs' decisions to invest in certain securities because the plaintiffs had delegated full authority for those securities investment decisions to the defendants. *Congregation of the Passion*, 800 F.2d at 181-82; *O'Brien*, 593 F.2d at 60.

The facts of this case are easily distinguishable from the two Seventh Circuit cases, as Ms. Yu is not suing her husband for misrepresenting information about EGC. Defendants have not cited any authority from the Ninth Circuit interpreting *Congregation of the Passion* and

O'Brien in the same way as the *Medline* and *Boyer* courts. District courts in the Ninth Circuit have rejected *Medline* and *Boyer*-based arguments. For instance, in *In re Commc'ns Sys., Inc.*, the court held that a named plaintiff was an adequate representative despite the fact that his broker sold his stock for him and the plaintiff did not know about the sales until afterward. "It is inevitable," the court noted,

> that some, if not most, investors rely on the advice of brokers and other specialists wholly or in part. Indeed, a large number of class members in any securities class action are likely to fall in this category. The fact that an investor seeking to be a class representative is in this category does not disqualify him; in fact, he is probably representative of a large number of class members.

No. C 00-1967 MHP, 2003 WL 21383824, at *4 (N.D. Cal. Feb. 24, 2003); *see also In re Countrywide Fin. Corp. Sec. Litig.*, 273 F.R.D. 586, 603 (C.D. Cal. 2009) ("Reliance on a broker will not generally make a plaintiff atypical."); *In re VeriSign, Inc.*, No. C 02-02270 JW(PVT), 2005 WL 88969, at *7 (N.D. Cal. Jan. 13, 2005) (rejecting defendants' argument that entities that abdicate responsibility for making investment decisions lack standing as purchasers or sellers); *In re Regal Commc'ns Corp. Sec. Litig.*, 1995 U.S. Dist. LEXIS 13492, *14 (E.D. Pa. Sept. 25, 1995) (rejecting argument that named plaintiffs were atypical because they purchased stock through discretionary broker accounts).

Thus, Ms. Yu's delegation of responsibility to her husband does not make her unique, nor does it make the corresponding non-reliance defense against her unique. It thus does not render her atypical or inadequate to serve as a class representative.

b. Dr. Thomas Lee

Defendants argue that Dr. Lee lacks standing because, even though he made investment decisions regarding EGC stock, those shares were held in his wife Ms. Yu's name only. *See* Lee Dep., May 12, 2015, 13:7-22, 16:1-6, 25:18-25. Thus, Defendants contend, Dr. Lee lacks Article III standing because he did not suffer an injury in fact. *See W.R. Huff Asset Mgmt. Co., LLC v. Deloitte & Touche LLP*, 549 F.3d 100, 109 (2d Cir. 2008) (holding that the plaintiff did not meet Article III's injury-in-fact requirement where the plaintiff, an investment advisor, had authority

to make investment decisions and to litigate on its investor clients' behalf but the clients had never transferred ownership of stock to the plaintiff).

Plaintiffs respond that Dr. Lee has suffered an injury in fact because he has a pecuniary interest in his and his wife's shared property. However, Plaintiffs have cited no legal authority. Nor has the Court found any legal authority to that effect in its own search.

Defendants further argue that Dr. Lee cannot cure his lack of Article III standing by having his wife assign her claims to him now, after litigation has begun. Opp'n at 10 (citing *In re IMAX Sec. Litig.*, No. 06CIV6128, 2009 WL 1905033, at *3 (S.D.N.Y. June 29, 2009), and *In re SLM Corp. Sec. Litig.*, 258 F.R.D. 112, 116 (S.D.N.Y. 2009)). At oral argument, the parties disagreed as to whether such a maneuver would be allowed in the Ninth Circuit, under *Northstar Fin. Advisors Inc. v. Schwab Invs.*, 779 F.3d 1036 (9th Cir. 2015).[1] Since the Court is leaving Ms. Yu as a typical and adequate class representative for this class action, it is not necessary for the Court will not decide the *Northstar* issue at this time.

Thus, because Dr. Lee has not shown that he has suffered an injury in fact, the Court finds that Dr. Lee is not a typical or adequate class representative.

c. Scott Lovell

Mr. Lovell purchased shares of EGC stock in December 2009. Declaration of Leif Simonson ("Simonson Decl.") Ex. G (Dkt. 290-7). On February 19, 2010, the SEC and EGC made their first announcements that EGC's auditors had withdrawn their audit opinions of three of EGC's previous financial statements. On March 2, 2010, this lawsuit was filed. The original complaint proposed a class period that ended February 19, 2010. Compl. ¶ 1. Four days after the complaint was filed, Mr. Lovell signed a PSLRA certification stating that he had reviewed the

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[1] In that case, Northstar Financial Advisors, Inc., an investment advising firm that managed investors' discretionary and non-discretionary accounts, brought a securities fraud class action in August 2008, before the Second Circuit decided *Huff*. On December 8, 2008, five days after *Huff* was decided, one of Northstar's client-shareholders assigned his claim to Northstar. The district court then dismissed Northstar's complaint for lack of standing, but granted Northstar leave to amend under Federal Rule of Civil Procedure 15(a). Northstar subsequently filed a new pleading which alleged the assignment. When defendants again moved to dismiss the case for lack of standing on the ground that subject matter jurisdiction must be determined as of the time that the original complaint is filed, the district court denied the motion. The district court construed Northstar's new complaint as a supplemental pleading under Rule 15(d) and held that the supplemental pleading cured the standing deficiency. The Ninth Circuit affirmed. *Northstar*, 779 F.3d at 1043-48.

complaint and that he was willing to serve as a Lead Plaintiff in this lawsuit. *See id.*; Simonson Decl. Ex. G. In April 2010, Mr. Lovell purchased additional EGC shares. Lovell Dep., May 11, 2015, 39:5-8, 42:19-25, 47:11-14, 49:9-13, 50:20-24. He testified in his deposition that he did so because the company still had some assets and he still believed in the company. Lovell Dep. at 39:5-40:13. Two months later, on June 4, 2010, Mr. Lovell was appointed Lead Plaintiff along with Ms. Yu and Dr. Lee (Dkt. 11). On September 13, 2010, he and the other Lead Plaintiffs filed an amended complaint which extended the class period to May 18, 2010. Consol. Amended Compl. (Dkt. 22) ¶ 1.

Defendants argue that many courts have found that investors who continue purchasing stock after corrective disclosures are issued are subject to unique defenses. Opp'n at 11 (citing cases). Plaintiffs refute this characterization of the case law. Reply at 21-22 (citing cases).

There appears to be a circuit split on this issue. In *Gary Plastic Packaging Corp. v. Merrill Lynch, Pierce, Fenner & Smith, Inc.*, 903 F.2d 176 (2d Cir. 1990), the named plaintiff Gary Plastic Packaging Corporation purchased twelve certificates of deposit ("CDs") through defendant Merrill Lynch in May and July 1982. After discovering that the Merrill Lynch CDs paid less interest than CDs purchased directly from the issuing banks, Gary Plastic nonetheless "rolled over" four of its Merrill Lynch CDs for another term. *Id.* at 178. The following year, Gary Plastic sued Merrill Lynch for securities fraud in connection with the CDs it had purchased. *Id.* The Second Circuit affirmed the district court's decision that Gary Plastic was an inappropriate class representative because it was subject to the unique defense of having continued to invest with Merrill Lynch even after it had notice and had even investigated alleged fraud. *Id.* at 179-80; *see also George v. China Auto. Sys., Inc.*, No. 11 CIV. 7533 KBF, 2013 WL 3357170, at *6 (S.D.N.Y. July 3, 2013) ("A named plaintiff who has engaged in a post-disclosure purchase is subject to the defense that the alleged misstatements or omissions were really not a factor in the purchasing decision but rather that other investment considerations drove the decision."); *GAMCO Investors, Inc. v. Vivendi, S.A.*, 917 F. Supp. 2d 246, 261-62 (S.D.N.Y. 2013) (noting that post-disclosure purchases *can* defeat the typicality requirement for class certification when "plaintiffs made a disproportionately large percentage of their purchases

post-disclosure" or "when a disclosure is so forceful that it becomes unreasonable for an investor, or the market, to continue to be misled by the defendants' alleged misrepresentation") (internal quotation marks omitted).

The Fifth Circuit, however, has "reject[ed] the argument that a proposed class representative in a fraud-on-the-market securities suit is as a matter of law categorically precluded from meeting the requirements of Rule 23(a) simply because of a post-disclosure purchase of the defendant company's stock" on the ground that reliance on the integrity of the market price during the class period is unlikely to be defeated by post-disclosure reliance on the integrity of the market, especially when the market's assimilation of new information "corrected" the stock price. *Feder v. Elec. Data Sys. Corp.*, 429 F.3d 125, 138 (5th Cir. 2005).

The Ninth Circuit does not appear to have spoken directly on the question. However, many district courts in the Ninth Circuit have held that post-disclosure or even post-class period purchases do not necessarily defeat typicality, following the Fifth Circuit's logic. *In re Countrywide*, 273 F.R.D. at 602-03; *In re Connetics Corp. Sec. Litig.*, 257 F.R.D. 572, 576-77 (N.D. Cal. 2009) (collecting cases on both sides, but concluding that the weight of the authority "favor[s] the position that the purchase of stock after a partial disclosure is not a per-se bar to satisfying the typicality requirement"); *In re Emulex Corp. Sec. Litig.*, 210 F.R.D. 717, 719 (C.D. Cal. 2002) (finding that the plaintiffs' post-disclosure purchases, based on their hopes the stock would "rebound" or "come back strong," did not defeat typicality because the plaintiffs' claims arose from the same set of events and course of conduct that gave rise to the claims of other class members).

"Of course, *unusual* post-disclosure trading patterns present typicality problems," *In re Countrywide*, 273 F.R.D. at 603. For example, if "Lead Plaintiffs continued to increase their holdings even after the securities' price remained unaltered following the disclosure of irregularities . . . it could be argued . . . that Lead Plaintiffs would have made their purchase even knowing of accounting irregularities." *In re DVI Inc. Sec. Litig.*, 249 F.R.D. 196, 204 n.12 (E.D. Pa. 2008) ("*DVI I*") *aff'd*, 639 F.3d 623 (3d Cir. 2011) ("*DVI II*").

Here, Defendants argue, Mr. Lovell purchased stock in April 2011 because he believed that the market had overreacted to the February 2011 news—i.e., that the market price did not accurately reflect the true value of the company. This non-reliance defense is not unique to Mr. Lovell, however. Other class members may have reacted the same way. *See In re Countrywide*, 273 F.R.D. at 603 ("[P]urchasing stock subsequent to a materially adverse disclosure, 'averaging down,' is a common technique used to decrease the average cost of an investment and which cannot be used to defeat a proposed class representative's typicality.") (quoting *In re Select Comfort Corp. Sec. Litig.*, 202 F.R.D. 598, 607 n.12 (D. Minn. 2001)). As for Defendants' assertion that Mr. Lovell was different from other class members because he had more detailed knowledge about the alleged fraud after "affirmatively volunteer[ing]" to be Lead Plaintiff than other class members who did not volunteer to be lead plaintiff, Opp'n at 12, the lead plaintiff in every securities fraud class action is different from absent class members in that regard. To characterize a lead plaintiff as atypical for having more information than the rest of the class would potentially make it impossible to find a typical class representative.

Thus, the Court rejects Defendants' argument that Mr. Lovell is subject to a "unique" post-disclosure purchases defense. The Court is satisfied that Mr. Lovell is a typical and adequate class representative.

B. Requirements of Rule 23(b)(3)

1. Predominance

"Rule 23(b)'s predominance criterion is even more demanding than Rule 23(a)." *Comcast Corp. v. Behrend*, 133 S. Ct. 1426, 1432 (2013). Rule 23(b) requires that courts "take a 'close look' at whether common questions predominate over individual ones." *Id.*

Defendants argue that individual questions of whether each individual investor relied on the alleged misstatements and omissions predominate over any common questions in this action because Plaintiffs cannot presume, based on the fraud-on-the-market theory, that all class members relied on the alleged misrepresentations. *See Dura Pharm., Inc. v. Broudo*, 544 U.S. 336, 341-42 (2005) (listing reliance as an element of Section 10(b) and Rule 10b-5 claims).

Specifically, Defendants argue that the fraud-on-the-market presumption does not apply in this case because EGC stock was not traded in an efficient market.

Under the fraud-on-the-market theory, an investor plaintiff's reliance on misleading statements about a company and its business can be presumed if "(1) the alleged misrepresentations were publicly known, (2) they were material, (3) the stock traded in an efficient market, and (4) the plaintiff traded the stock between when the misrepresentations were made and when the truth was revealed." *Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398, 2413 (2014). The fraud-on-the-market theory is an indirect way to show that the specific misrepresentation alleged by the plaintiff impacted the price of the stock. *Id.* at 2415. Thus, even if plaintiffs do not have direct evidence of price impact, plaintiffs can potentially satisfy their burden of proving class-wide reliance merely by proving the four elements of the fraud-on-the-market theory. *See id.* at 2414. Plaintiffs have the burden to prove, not just plead, market efficiency by a preponderance of the evidence before class certification. *Id.* at 2412; *Rodman v. Safeway, Inc.*, No. 11-CV-03003-JST, 2014 WL 988992, at *4 (N.D. Cal. Mar. 10, 2014). Defendants, however, may defeat the presumption at the class certification stage through "[a]ny showing that severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, or his decision to trade at a fair market price," for instance through evidence that the specific misrepresentation at issue did not actually impact the price. *Id.* at 2408, 2414-16.

An efficient market is one that "react[s] quickly in processing information[,] enabling it [] to be reflected in the market price." 4 Thomas Lee Hazen, Law Sec. Reg. § 12.10 (2015); *Binder v. Gillespie*, 184 F.3d 1059, 1065 (9th Cir. 1999) ("The question is whether such a market is efficient—meaning simply whether the stock prices reflect public information."). Most courts have held that where a stock is traded—in an over-the-counter market, like EGC stock was, versus on a national exchange—is not dispositive as to whether the market for that stock is efficient. *See Krogman v. Sterritt*, 202 F.R.D. 467, 474 (N.D. Tex. 2001); *Cammer v. Bloom*, 711 F. Supp. 1264, 1280-84 (D.N.J. 1989). Rather, to determine whether the market for a particular stock was efficient, many courts, including the Ninth Circuit, use the five factors from

Cammer. *See Binder*, 184 F.3d at 1065. The *Cammer* factors are: (1) whether the stock trades at a high weekly volume; (2) whether securities analysts follow and report on the stock; (3) whether the stock has numerous market makers and arbitrageurs; (4) whether the company is eligible to file SEC registration form S-3, as opposed to form S-1 or S-2; and (5) whether there are "empirical facts showing a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price." *Id.* (quoting *Cammer*, 711 F. Supp. at 1286-87). The *Cammer* factors are "an analytical tool, not a checklist" of requirements, *Teamsters Local 445 Freight Div. Pension Fund v. Bombardier, Inc.*, No. 05 Civ. 1898(SAS), 2006 WL 2161887, at *5 (S.D.N.Y. Aug. 1, 2006), and can be supplemented by other measures, such as "(6) the company's market capitalization; (7) the bid-ask spread; (8) the float, or issue amount outstanding excluding insider-owned securities; and (9) the percentage of institutional ownership." *In re HealthSouth Corp. Sec. Litig.*, 261 F.R.D. 616, 632 (N.D. Ala. 2009) (citing *Unger v. Amedisys Inc.*, 401 F.3d 316, 323 (5th Cir. 2005)).

In this case, to support the contention that EGC's stock price was impacted by Defendants' alleged misrepresentations and omissions, Plaintiffs present evidence to show that the market for EGC stock was *Cammer* efficient during the Class Period. The Court will consider the evidence supporting each of the *Cammer* and non-*Cammer* factors in turn.

a. *Cammer* Factors

i. Average Weekly Trading Volume

A high average trading volume supports a finding of market efficiency, because it "implies significant investor interest in the company," and that interest "implies a likelihood that many investors are executing trades on the basis of newly available or disseminated corporate information." *Cammer*, 711 F. Supp. at 1286. Turnover, "measured by average weekly trading of 2% or more of the outstanding shares would justify a strong presumption that the market for the security is an efficient one; 1% would justify a substantial presumption." *Id.* (citation omitted).

Here, the average weekly trading volume of EGC's stock during the Class Period was 3.3%, which, under *Cammer*, justifies a strong presumption of an efficient market. Declaration of Howard J. Mulcahey ("Mulcahey Decl. I") (Dkt. 274-4) ¶ 28.

Defendants do not dispute this figure. Rather, Defendants contend that, for *Cammer* purposes, the 3.3% figure should be discounted by 60% or 70% because recent industry studies show that high frequency trading generally accounts for 60-70% of market activity. Applying a 60% adjustment factor to account for high frequency traders would reduce the trading volume to 1.32% and applying a 70% adjustment factor would reduce the volume to 0.99%. Declaration of Mukarram Attari ("Attari Decl.") (Dkt. 291-2) ¶ 41.

Defendants urge that the average weekly trading volume figure should be further discounted by unknown percentages because roughly 85% of EGC's trading volume during the Class Period was attributable to retail investors (who are usually less informed than institutional investors) and because of "potential double counting of volume that is a feature of dealer markets." *Id.* ¶¶ 41-44. Once these discounts are applied, Defendants contend, EGC's average weekly trading volume drops below the range of volumes for stock that courts have found to have been traded in an efficient market. *See* Mulcahey Decl. I Ex. 15 (listing cases where courts found efficient markets and the average weekly trading volumes of the stock).

Defendants have not shown how much "potential double counting" of market maker trading occurred nor have Defendants proposed how much EGC's average weekly trading volume should be discounted to adjust for the market maker trading and retail investor trading. Thus, the Court finds those arguments unavailing. The high frequency trading argument is more persuasive. However, even if EGC's average weekly trading volume is reduced to 0.99% or 1.32%, that is still within the "substantial presumption" range in *Cammer*. Thus, the Court find that this factor weighs in Plaintiffs' favor.

ii. Analyst Coverage

Coverage of a company's stock by "significant number of securities analysts" during a class period indicates market efficiency because it implies that available information on the company was "closely reviewed by investment professionals, who would in turn make buy/sell

recommendations to client investors," which would in turn affect the price of the stock. *Cammer*, 711 F. Supp. at 1286. There is no bright-line rule regarding how many analysts it takes to constitute a "significant" number. In *Cammer*, the court found market efficiency in part based on the fact that 15 research reports on the company at issue were issued between July 1987 and June 1988. *Id.* at 1283 n.30. In *In re Amerifirst Sec. Litig.*, market efficiency was found where at least six securities analysts issued reports during the class period. 139 F.R.D. 423, 432 (S.D. Fla. 1991). In *In re Xcelera.com Sec. Litig.*, market efficiency was found where only one securities analyst followed the company's stock and issued only one report during the 16-month class period, but information about the company was widely distributed through news articles, press releases, television interviews, the company's SEC filings, and influential brokerage firms' reporting on Internet and technology stocks. 430 F.3d 503, 515 (1st Cir. 2005). On the other hand, the court in *Krogman* held that "[t]he existence of one . . . independent analyst, Attkisson, and coverage by Moody's and similar publications, is insufficient to cause this factor to weigh in favor of market efficiency." 202 F.R.D. at 475. Taking more of a middle ground, the court in *Cheney v. Cyberguard Corp.*, found that the analyst factor did not "strongly" weigh in favor of a market efficiency finding where two analysts issued five reports during the 22-month class period, but there were significant news reports about the company. 213 F.R.D. 484, 499 (S.D. Fla. 2003). The court noted, however, that this factor was not dispositive. *Id.*

Here, the parties try to slice and dice the same data in different ways. Plaintiffs claim that 148 analyst reports about EGC stock were issued during the 37-month Class Period. The 148 reports consisted of 37 comprehensive research reports and 111 secondary research reports. Of the 37 comprehensive research reports, 35 were published by securities analysts Roth Capital Partners ("Roth") and 2 were published by Merriman Curhan Ford ("Merriman"). Mulcahey Decl. I ¶¶ 33-34. Dividing the 37 comprehensive reports over the three-year Class Period yields an average of 12 reports per year, which Plaintiffs argue is close enough to the 15 reports in one year in *Cammer* to warrant finding this factor in their favor even without adding the 111 secondary reports.

The 111 secondary research reports were produced by PriceTarget (1 report), ValueEngine (18 reports), and TheStreet.com (92 reports). *Id.* ¶ 38. These reports included the following information:

- An investment rating (buy/hold/sell recommendations);
- An analysis of recent earnings reports or value-changing events;
- Projections, price target, and historical earnings trends and analyses;
- A comparison to peer companies; and
- The names of the analysts.

Id. ¶ 34. In addition, EGC appeared in 1,650 news stories and press releases and made 110 filings with the SEC during the class period. *Id.* ¶ 44.

Defendants point out that, between Merriman and Roth, a maximum of two analysts covered EGC's stock at any point during the Class Period and, for 32 out of the 37 months of the Class Period, EGC's stock was covered only by one analyst or none at all. Opp'n at 10-11. Thus, Defendants argue, this factor should weigh against Plaintiffs under *Krogman* and *Cheney*. Defendants also argue that the 111 secondary research reports do not count because they were not produced by securities analysts, as they are not of the same quality as the Merriman and Roth reports. Also, Defendants contend that any press releases and SEC filings should be discounted under *Serfaty v. Int'l Automated Sys., Inc.*, 180 F.R.D. 418, 422 (D. Utah 1998) (finding that the analyst factor weighed against finding market efficiency where the plaintiffs had no evidence of analyst reports, only advertisements and press releases disseminated by the company itself because the latter information was "not a substitute" for analyst reports).

Given that there was only one analyst reporting on EGC stock at most points during the Class Period and given the dubious treatment some courts have given to non-analyst reports and news reports, the Court finds that this factor weighs against Plaintiffs.

iii. Number of Market Makers

"A market-maker is one who helps establish a market for securities by reporting bid-and-asked quotations (the price a buyer will pay for a security and the price a seller will sell a security) and who stands ready to buy or sell at these publicly quoted prices." *In re Countrywide*, 273 F.R.D. at 613-14. "The more market-makers for a particular security (and,

relatedly, the greater the volume of the security the market-makers are prepared to handle), the more reasonable it is to infer that the security is liquid, and, therefore, more likely the market for that security is efficient." *Id.* at 614. In *Cammer*, a market was found efficient in part based on the existence of 11 market makers in the relevant market. *Cammer*, 711 F. Supp. at 1283; *see also Hodges v. Akeena Solar, Inc.*, 274 F.R.D. 259, 269 (N.D. Cal. 2011) (finding market efficiency based in part on the existence of "over twenty" market makers); *Levine v. SkyMall, Inc.*, No. CIV. 99-166-PHX-ROS, 2002 WL 31056919, at *6 (D. Ariz. May 24, 2002) (finding a market efficient where there were between 11 and 22 market makers).

Here, Plaintiffs' evidence shows that there were between 24 and 32 market makers in EGC common stock during the Class Period, with an average of 27 market makers. Mulcahey Decl. I ¶ 50. Defendants argue that this evidence should be discounted because Plaintiffs did not show that all of these market makers actually and regularly bought and sold stock throughout the Class Period, as opposed to merely quoting EGC stock prices during the Class Period. Opp'n at 15. Defendants cite *O'Neil v. Appel*, which states that the mere number of market makers, "is virtually meaningless" without more information about "the volume of shares that they committed to trade, the volume of shares they actually traded, and the prices at which they did so" because "market makers generally do not analyze and disseminate information about the stock that they make a market for" unless, potentially, when they are buying and selling that stock. 165 F.R.D. 479, 501-02 (W.D. Mich. 1996); *see also Bell v. Ascendant Solutions, Inc.*, 422 F.3d 307, 315 (5th Cir. 2005) (citing *O'Neil*); *In re Netbank, Inc. Sec. Litig.*, 259 F.R.D. 656, 671 (N.D. Ga. 2009) (same).

No court in the Ninth Circuit has adopted this viewpoint, as most courts consider only the number of market makers. However, even under the *O'Neil* standard, Plaintiffs have provided evidence that (1) market makers accounted for 94.5% of EGC's trading volume (282.7 million trading volume out of total trading volume of 299 million), Declaration of Howard J. Mulcahey ("Mulcahey Decl. II") (Dkt. 296-3) ¶ 120; (2) the average market maker trading volume during the Class Period was 5,139,144 shares, *id.* ¶ 121; (3) 13 market makers traded at least 5,139,144 shares during the Class Period, *id.*; (4) 23 market makers traded at least 1 million shares over the

Class Period, *id.*; and (5) there were no trading days during the Class Period during which EGC stock did not trade except during the last three months when trading was halted by the SEC, *id.* ¶ 117.

Based on this record, the Court finds that this factor weighs in favor of Plaintiffs.

iv. Eligibility to File a Form S-3 with the SEC

A fourth factor under *Cammer* is whether the defendant is eligible to file an SEC registration Form S-3. That form is a short form registration statement reserved for companies (1) with $75 million in common equity held by non-affiliates of the registrant and (2) that have filed reports with the Securities and Exchange Commission ("SEC") for 12 consecutive months. *See* 17 C.F.R. § 239.13. "Courts have found that the SEC permits an S-3 Registration statement 'only on the premise that the stock is already traded on an open and efficient market, such that further disclosure is unnecessary.'" *Teamsters*, 2006 WL 2161887 at *7 (citations omitted). The SEC has relaxed the requirements for S-3 eligibility since *Cammer*, but the factor remains an important one for courts. *Krogman*, 202 F.R.D. at 476-77 (citing cases).

Here, Plaintiffs concede that EGC was ineligible to file Form S-3 for most of the Class Period and, thus, this factor does not support a finding of market efficiency. Mot. at 16. However, Plaintiffs argue, this factor is not fatal to a finding of market efficiency. The Court agrees. *Nguyen v. Radient Pharm. Corp.*, 287 F.R.D. 563, 574 (C.D. Cal. 2012); *Cammer*, 711 F. Supp. at 1287 (rejecting Form S-3 eligibility as a bright-line test for market efficiency); *cf. O'Neil*, 165 F.R.D. at 502 (holding that a stock was not traded in an efficient market, in part because the stock was *never* eligible to file an S-3 form).

v. Cause-and-Effect Relationship Between Corporate News and the Company's Stock Price

The fifth *Cammer* factor is whether there are facts to support a cause-and-effect relationship between unexpected corporate events or financial releases and an immediate response in stock price. This factor is "the essence of an efficient market and the foundation for the fraud on the market theory." *Cammer*, 711 F. Supp. at 1287. "Event studies are by far the

most common test for a causal connection." *In re Countrywide*, 273 F.R.D. at 614. An event study typically

> partition[s] a company's security price movement on each trading day in the class period into three parts: the movement caused by market-wide factors, or the "market effect"; the movement caused by industry-wide factors, or the "industry effect"; and the movement caused by "firm-specific effect." Once the factors are partitioned and firm-specific effects are isolated to determine if the market reacts efficiently to disclosures, the court is generally presented empirical evidence showing whether the firm-specific abnormal returns or returns in excess of what is predicted by the statistical model are statistically significant. The court examines those days throughout the class period when either, (a) there appear to be material or statistically significant firm-specific abnormal returns, and to determine whether there are associated disclosures, or conversely (b) there are material or corrective disclosures, and to determine whether there are associated material or statistically significant firm-specific abnormal returns.

Michael L. Hartzmark & H. Nejat Seyhun, *The Curious Incident of the Dog That Didn't Bark and Establishing Cause-and-Effect in Class Action Securities Litigation*, 6 Va. L. & Bus. Rev. 415, 425-26 (2012).

Plaintiff's expert Howard Mulcahey, conducted five different tests to determine the impact of new information on the market price for EGC common stock. Defendants have numerous objections to Mr. Mulcahey's tests. The Court will address each in turn.

(1) Reaction to new information ("Test 1")

Mr. Mulcahey identified the 20 days in which EGC's common stock had the largest price movements compared to the market. He then studied the actual news disclosed on those days to determine if any of that new information was responsible for EGC stock price movements. He found that on 10 of those 20 days and on 6 of the top 10 days, the direction and magnitude of EGC stock's price movements correlated with the news disclosed that day. Mulcahey Decl. I ¶¶ 68-74.

With regard to Test 1, Defendants point out that, on 10 (50%) of those 20 days, the large price movement was not associated with any news whatsoever and can be discounted as "noise." Opp'n at 17. This argument is not persuasive, as Plaintiffs have provided evidence that

only a third of abnormally large stock price movements are typically associated with news events. *See* Mulcahey Decl. I at 29 n.68; *see also DVI II*, 639 F.3d at 635 (affirming district court's factual finding that 60-65% correlation between news events and price changes in light of two studies offered by plaintiffs which found that approximately one-third of statistically significant stock price changes were associated with identifiable news events), *abrogated on other grounds by Amgen*, 133 S. Ct. 1184.

Defendants argue that the top 20 days in which EGC's common stock had the largest price movements compared to the market is too small of a sample size and may not be representative of most trading days. Opp'n at 16-17. This argument gives pause. Defendants cite two cases in which such methodology was criticized. In *In re Countrywide*, the court found an expert report unhelpful where the expert used a small, potentially non-representative sample of ten days within the class period with some of the biggest return days. 273 F.R.D. at 619. In *In re PolyMedica Corp. Sec. Litig.*, the court critiqued an expert's event study for picking the top ten days with stock price drops and describing the news events that correlated with those stock price drops instead of systematically comparing all news days with all non-news days. 453 F. Supp. 2d 260, 270 (D. Mass. 2006) ("*PolyMedica II*").

To defend Mr. Mulcahey's decision to analyze only the top 20 days, Plaintiffs rely on *Radient*, a previous case before this Court where the Court found that Mr. Mulcahey's event studies in that case supported a finding of market efficiency. There, however, Mr. Mulcahey's event studies were unopposed, 287 F.R.D. at 574, meaning that this Court did not consider the question of whether evaluating only the days with the largest price movements renders an expert's opinion unhelpful. Plaintiffs also cite *DVI I*. In that case, however, the plaintiffs' expert examined *all* days with statistically significant returns (totaling 34 days), not just the top few days. 249 F.R.D. at 211.

Here, Mr. Mulcahey appears to have chosen, for some reason, to examine the top 20 days with the largest price movements in Test 1 out of a total set of 23 days with statistically significant large price movements. Even after hearing oral arguments, the Court is still puzzled by this seemingly arbitrary choice, as changing the denominator from 20 to 23 would not have

dramatically changed the percentage of days in which the news seems to have caused a price movement. (This is especially so given Plaintiff's counsel's representation at oral argument that, had Mr. Mulcahey used the 23-day set, he would have found that 12 of them were preceded by news days.) Given the fairly small difference between a subset of 20 and the total set of 23, the Court is not overly concerned about Test 1 from a *PolyMedica II* cherry-picking standpoint. The Court ultimately is also not concerned about the charge that the sample size of 20 or 23 out of 777 is too small or is unrepresentative. The *Countrywide* court was concerned about not just a sample size of 10 out of 997 trading days, but also about the fact that the expert was analyzing a bond that was supposed to be representative of other bonds at issue in the case, but actually may not have been for many reasons, including differences in trading volume, percentage of institutional holders, and number of trading days. *In re Countrywide*, 273 F.R.D. at 620. Here, Defendants have attacked Mr. Mulcahey's credibility, but have not provided the same type of data as in *Countrywide* that would make this Court's concerned about the sample size and representativeness. Thus, the Court finds that Test 1 weighs somewhat in Plaintiffs' favor.

(2) Stock price reaction to EGC's press releases and earnings announcements ("Tests 2 and 3")

In Test 2, Mr. Mulcahey compared the average absolute value of excess returns on EGC stock on the 50 days during the Class Period when EGC issued press releases with the days on which EGC did not issue press releases. Mr. Mulcahey found that the average absolute value of excess returns on EGC stock was 8.8% on press release days versus 3.9% on non-press release days. In addition, excess returns on 8 (16%) of the 50 press release days were statistically significant while excess returns on only 29 (4%) out of the 727 non-press release days were statistically significant. Based on these results, Mr. Mulcahey opined that EGC stock prices reacted in a statistically significant way to EGC press releases. Mulcahey Decl. I ¶¶ 75-83.

In Test 3, Mr. Mulcahey compared the variance of excess returns on the 11 days during the Class Period when EGC issued earning announcements and on the days on which EGC did not issue earnings announcements. Mr. Mulcahey found that, on earnings announcement days, the variance of excess returns was 1.34% compared to a variance of 0.47% on non-earnings

announcement days. Based on these results, Mr. Mulcahey opined that EGC stock prices reacted in a statistically significant way to EGC earnings announcements. Mulcahey Decl. I ¶¶ 84-88.

With regard to Tests 2 and 3, Defendants claim that the results were skewed by large price movements on two days in May and August 2007. Opp'n at 19. Without those two outliers, the average absolute value of excess returns on EGC stock was only 4.5% on press release days (not 8.8%), compared to 3.9% on non-press release days. Attari Decl. Ex. 7. Similarly, without those two outliers, the volatility of the stock price on earnings announcement days was actually less than the volatility on non-earnings announcement days, as the variance on earnings announcement days was 0.40% (not 1.34%) compared to a variance of 0.47% on non-earnings announcement days. Attari Decl. ¶ 52, Ex. 6. Although it would be improper to completely disregard the two outlying data points in a study about the whole Class Period, the weight of Mr. Mulcahey's conclusions in Tests 2 and 3 is lessened by disproportionately large price movements in the early part of the Class Period.

Defendants also contend that Mr. Mulcahey's methodology was unreliable because he did not show whether the price movement's direction correlated with the news, i.e., that good news was correlated with an increase in price and bad news was correlated with a decrease in price. Opp'n at 18-19. When deposed, Mr. Mulcahey testified regarding Test 2 that he did not consider whether the price movement on any particular press release day was in a direction consistent with what might be expected given the type of information in the press release. Mulcahey Dep., May 27, 2015, 157:13-23. For Test 3, he did consider that factor for some but not all of the earnings announcement days and found that the direction of the price movement was consistent with the content of the earnings announcements on those days. *Id.* at 168:18-169:5.

For the proposition that evidence of the price movement's direction is necessary, Defendants cite *In re Countrywide*, which described an event study as an attempt "to determine whether new information correlates with a price movement—*including the price movement's direction* and, perhaps, magnitude." 273 F.R.D. at 614 (emphasis added).

In response, Plaintiffs contend that they do not need to prove the direction of the price movement because, to prove *Cammer* market efficiency, a plaintiff need not show "fundamental

efficiency," only "informational efficiency." That is, plaintiffs need not show that, as a result of incorporating information, the market price reflected the intrinsic value of the stock. Rather, plaintiffs need only show that the price absorbs and reflects "all available information (and misinformation)" in a way that justifies an inference of investor reliance. *In re PolyMedica Corp. Sec. Litig.*, 432 F.3d 1, 16 (1st Cir. 2005) ("*PolyMedica I*").

The Court agrees with Plaintiffs that there is no absolute requirement to show that certain information caused prices to move in a specific direction. In some circumstances, it may be virtually impossible to determine the "correct" direction in which the price should move in response to a certain piece of information. For instance, a press release might contain both "good" and "bad" news. Or, the same new information might be "good" news to one investor but "bad" to another. On the other hand, certain news can be reasonably expected to drive the price only in one direction. For instance, if a stock price went up every time a federal agency announced an investigation into the company, a fact finder would be hard pressed to say that the stock price reflected investor reliance on all available information. Thus, while lack of evidence about the direction of the price impact is not necessarily fatal to an event study, it can be relevant to how much weight the study is given.

Here, in summary, Plaintiffs have some evidence that, during the Class Period, the absolute value of excess returns was marginally greater on days when press releases were issued compared to days with no press releases, but no evidence of the direction in which the stock price moved. Plaintiffs also have some evidence that there were greater excess returns (in the expected direction) on days with earnings announcements as opposed to non-earnings announcement days. Also, EGC's stock price was slightly more volatile on some days when earnings announcements were made compared to days with no earnings announcements, but on many days it was less volatile or no more volatile.

On the whole, Tests 2 and 3 are not very helpful to Plaintiffs.

(3) Speed of price reaction to new information ("Test 4")

For Test 4, Mr. Mulcahey identified 23 days in which there was unusually large one-day change in EGC's net-of-market stock price. He assumed that the excess returns in those days were all caused by news events. He then looked for excess returns on the days immediately following the "big-return days" and found that, on 17 (74%) of those 23 days, EGC common stock did not experience a statistically significant stock price movement. Thus, Mr. Mulcahey concluded, EGC's stock price incorporated this information within a one-day event window. Mulcahey Decl. I ¶¶ 89-95.

With regard to Test 4, Defendants object that Mr. Mulcahey cannot credibly assume that the 23 days with statistically significant excess returns were all due to news events when Mr. Mulcahey found in Test 1 that half of the top 20 largest price movements were not associated with any news event at all. Opp'n at 18. Plaintiffs attempt to defend Mr. Mulcahey's Test 4 by emphasizing that Test 1 evaluated the impact of published news articles on stock price while Test 4 evaluated the impact of any kind of new information, published or not. This argument is unavailing, as Plaintiffs' expert does not himself distinguish between published news articles and other types of disclosed news. The argument also misses the point, as it does not squarely address whether the assumption underlying Test 4—that disclosure of new information correlated with the big returns on those 23 days—was a valid assumption. Plaintiffs' own data shows that the top 20 days are a subset of the 23 "big-return days" set in Test 4, meaning that only 10 (or at most 13) out of the 23 "big returns" days were "news" days. *See* Mulcahey Decl. Ex. 7, App'x A. Accordingly, it is not credible to assume that the "big returns" on all 23 days were correlated with disclosure of new information.

That said, the underlying data shows that, out of the 10 days where "big returns" were correlated with news, 8 (80%) of those days were followed by days where there were no statistically significant price movements, suggesting that the news was incorporated into the stock price within one day. *See* Mulcahey Decl. I at 38 n.84, Ex. 7, App'x A. Thus, it appears

that, in general, the rapid speed at which news was incorporated into EGC's common stock price during the Class Period supports a finding of market efficiency.

(4) Correlation between absolute stock returns and trading volume ("Test 5")

Mr. Mulcahey found a strong, positive correlation between daily trading volume and the absolute value of EGC common stock price returns, which, he opines, supports a finding of market efficiency because it reflects active trading and because it is consistent with a general economic finding that a high correlation between trading volume and returns implies that the stock price is reacting to new information. Mulcahey Decl. I ¶¶ 96-100. Defendants do not challenge this finding.

(5) Conclusion

Based on this record, the Court concludes that the cause-and-effect factor weighs weakly in Plaintiffs' favor.

b. Other Factors

Plaintiffs further contend that other indicators of market efficiency, outside of the five *Cammer* factors, also support a fraud on the market presumption, and thus certification under Rule 23(b)(3).

i. Bid-Ask Spread

The bid-ask spread, for instance, is a measure of "the difference between the price at which current stockholders are willing to buy the stock and the price at which current stockholders are willing to sell their shares." *Cheney*, 213 F.R.D. at 501 (citing *Krogman*, 202 F.R.D. at 478). A large bid-ask spread is indicative of an inefficient market, because it suggests that the stock is too expensive to trade. *Krogman*, 202 F.R.D. at 478. In *Cheney*, a spread of 2.44% was found to weigh in favor of market efficiency, 213 F.R.D. at 501, while in *Krogman*, a spread of 5.6% was found to suggest market inefficiency, 202 F.R.D. at 478. Here, the average and median bid-ask spread of EGC stock during the Class Period was 2.91% and 2.20% respectively. No court has held that EGC's bid-ask spread is too high. However, as Defendants point out, EGC's bid-ask spread is higher than the bid-ask spread of other companies in cases

where courts have found market efficiency. As shown in Mr. Mulcahey's list of such cases, the vast majority of these cases involved companies with a bid-ask spread of lower than 1%. Mulcahey Decl. I, Ex. 15. In conclusion, this factor supports Plaintiffs' case more than it does Defendants', but not strongly.

ii. Autocorrelation

"A security exhibits autocorrelation if the change in price of the security on a given day provides an indication of what the change in price for the security will be on the following day." *DVI I*, 249 F.R.D. at 213. The more likely past price movement is to predict future price movement, the less efficient a market is likely to be because an efficient market incorporates information quickly into the first day's price, whereas an inefficient market would not fully digest the information until later. *Id.*; *PolyMedica I*, 453 F. Supp. 2d at 278. The court in *DVI I* found that the autocorrelation factor weighed against plaintiffs when the autocorrelation coefficient was 0.23, which implied that, if the company's stock showed an above average return of 10% on one day, the return the next day would be expected to be 2.3% above average. 249 F.R.D. at 213, 213 n.30.

Plaintiffs' expert's autocorrelation study found no significant autocorrelation for EGC's raw or excess returns over the Class Period, as the coefficient for EGC's stock return from the previous day over the Class Period was -0.004 and the coefficient for EGC's excess return was -0.008. Mulcahey Decl. I ¶ 115. Defendants' expert found significant autocorrelation when the Class Period was divided into subparts—first, divided into four one-year periods starting with the year preceding the Class Period and ending three months before the end of the Class Period (April 5, 2006 to April 4, 2007; April 5, 2007 to April 4, 2008; April 5, 2008 to April 4, 2009; and April 5, 2009 to February 18, 2010); and second, divided into three sub-periods marked by the peaks and valleys of the stock market during the Great Recession (April 5, 2006 to October 31, 2007; October 31, 2007 to March 9, 2009; and March 9, 2009 to February 18, 2010). Attari Decl. ¶¶ 30-35.

Defendants have not provided legal authority to support the proposition that courts should evaluate autocorrelation based on data for sub-periods within the Class Period, particularly the

seemingly arbitrary one-year sub-periods in Mr. Attari's first autocorrelation study, as opposed to the Class Period overall. In conclusion, this factor weighs in Plaintiffs' favor.

iii. Institutional Investors

Some courts have found that a large number of institutional investors holding a company's stock suggests that a market is efficient. *Bennett v. Sprint Nextel Corp.*, 298 F.R.D. 498, 511 (D. Kan. 2014); *In re HealthSouth*, 261 F.R.D. at 637; *O'Neil*, 165 F.R.D. at 503. However, few courts have explained how to evaluate how many institutional investors constitutes a "large" number. In *Lumen v. Anderson*, the court found the institutional investors factor to weigh in plaintiffs' favor where between 70 and 140 institutional investors held between 8 and 20 million shares (29%-71%) out of 28 million outstanding shares. 280 F.R.D. 451, 460 (W.D. Mo. 2012). In *Local 703, I.B. of T. Grocery & Food Emps. Welfare Fund v. Regions Fin. Corp.*, market efficiency was found based in part on 329 and 425 institutional investors holding the company's stock. 762 F.3d 1248, 1258 (11th Cir. 2014). In *Tatz v. Nanophase Techs. Corp.*, market efficiency was found based in part on the fact that "numerous" institutional investors held 11% to 13% of the total outstanding common stock. No. 01 C 8440, 2003 WL 21372471, at *7 (N.D. Ill. June 13, 2003).

Here, institutional investors held between 10.9% and 33.4% (average of 24.2%) of EGC's outstanding common stock during the Class Period. Mulcahey Decl. I ¶ 123. Between 4 and 7 institutional investors held shares in any given quarter during the Class Period, with 17 unique institutional investors holding shares at some point during the Class Period. Attari Decl. Ex. 5. As discussed above, only 14.9% of EGC's trading volume during the Class Period was attributable to institutional investors. *See* Attari Decl. ¶ 44; *supra* Part III.B.1.a.i.

Here, as was the case with the bid-ask spread factor, no court has held that the number of institutional investors holding EGC stock was too low. However, based on Plaintiffs' own list of cases where courts have found market efficiency, the vast majority of these cases involved companies with average institutional holdings of over 70%. Mulcahey Decl. I, Ex. 15. Thus, this factor does not weigh in Plaintiffs' favor.

iv. Percentage of Shares Held by Insiders

The percentage of stock held by corporate insiders, known as the "float," is helpful in determining market efficiency. Since "insiders may have information that is not yet reflected in stock prices, the prices of stocks that have greater holdings by insiders are less likely to accurately reflect all available information." *Krogman*, 202 F.R.D. at 478 (internal quotation marks omitted). Thus, a high percentage of insiders holding stock (low float) weighs against a finding of market efficiency, *id.* (finding that float factor weighed against market efficiency where insiders held 54% of stock), while a low percentage of insiders holding stock (high float) supports a finding of market efficiency, *Cheney*, 213 F.R.D. at 502 (finding that float factor weighed in favor of market efficiency where insiders held 5% of stock).

Here, insiders held an average of 12.6% of EGC stock during the Class Period. Mulcahey Decl. I ¶ 118. As Defendants appear to concede through their non-opposition, this factor weighs in favor of market efficiency.

v. Short Interest

The "short interest" of a security is the percentage of shares outstanding that has been sold short. It is an indicator of arbitrageurs' presence in a stock market. The higher the short interest ratio, the more likely a market is efficient because arbitrageurs are one important way through which information gets absorbed into the stock price.[2] That said, "while the average short interest of a security is a useful proxy for determining whether there existed barriers to short-selling a particular security, it is not dispositive because other factors (including the market's expectations about the future direction a of security's price) may have caused reduced short selling." *DVI I*, 249 F.R.D. at 213. Ultimately, the key inquiry is whether there were barriers to short-selling during the Class Period. *Id.* (finding short interest factor weighed in

[2] Arbitrageurs "obtain and analyze information about stocks from a variety of sources, including from the issuer, market analysts, and the financial and trade press." *PolyMedica I*, 432 F.3d at 9. They then "immediately attempt to profit from such information (for instance, through short sales), thereby causing the stock to move to a price which reflects the latest public information concerning the stock, where it is no longer possible to generate profits." *Id.* (footnote omitted).

favor of market efficiency where average short interest of the company stock was low, but there were no significant barriers to short-selling).

Plaintiffs contend that short interest in EGC stock, an average of 1.03% over the Class Period, is consistent with an efficient market. Mulcahey Decl. I ¶¶ 126-132. Defendants do not dispute this figure, nor do they argue that there were uncommonly high barriers to arbitrageurs short-selling EGC stock. Thus, this favor weighs in Plaintiffs' favor.

c. Conclusion

Overall, Plaintiffs have relatively weak evidence of market efficiency, compared to other cases which have found market efficiency. The most important cause-and-effect factor weighs only weakly in favor of Plaintiffs. Of the other four *Cammer* factors, the analyst coverage and Form S-3 eligibility factors weigh against Plaintiffs. The average weekly trading volume and number of market makers factor weigh somewhat in favor of Plaintiffs. The non-*Cammer* factors are also generally a wash, with the autocorrelation, percentage of insider holdings, and short interest factors supporting Plaintiffs while the bid-ask spread and institutional holdings factors are not particularly helpful to them.

Based on the totality of the record, the Court finds that Plaintiffs have nevertheless met their burden of proving that they are entitled to the fraud-on-the-market presumption. Thus, the Rule 23(b) predominance requirement is met.

2. Superiority

Class certification is appropriate only if class resolution is "superior to other available methods for fairly and efficiently adjudicating the controversy." Fed. R. Civ. P. 23(b)(3). Rule 23(b)(3) lays out four non-exhaustive factors for courts to take into consideration:

> (A) the class members' interests in individually controlling the prosecution or defense of separate actions;
>
> (B) the extent and nature of any litigation concerning the controversy already begun by or against class members;
>
> (C) the desirability or undesirability of concentrating the litigation of the claims in the particular forum; and

(D) the likely difficulties in managing a class action.

Fed. R. Civ. P. 23(b)(3).

Defendants have not raised any issues related to these four factors. Generally, "[i]f united by a common core of facts, and a presumption of reliance on an efficient market, class actions are the superior way to litigate a case alleging violations of securities fraud." *Radient*, 287 F.R.D. at 575. Here, there is a common core of facts. Since Plaintiffs have prevailed on the fraud-on-the-market theory, the Court finds the superiority requirement met.

C. Shortening of Class Period

Defendants present two arguments why the Class Period should be shortened. The Court addresses each in turn.

1. Whether Fraud-on-the-Market Presumption Applies Between February 19 and May 18, 2010

Defendants argue that the Class Period should be shortened by moving up the end date from May 18, 2010 to February 19, 2010 because the EGC failed to meet the *Cammer* factors after February 18, 2010. Opp'n at 23 n.9. Specifically, Defendants point out, EGC's adjusted trading volume dropped to 2.56% (or 0.77-1.02% after applying the 60-70% downward adjustments discussed in Part III.B.1.b.1). Attari Decl. ¶ 61. Defendants also pointed out that Plaintiffs' expert did not have any evidence of analysts reporting on EGC nor did he have data on market makers during this time. *Id.* ¶ 62. Defendants also assert that the market price of EGC stock moved volatilely during this time period with no news associated with the movements, such as when the stock returns on May 4, 10, and 11 were -15.78%, 45.07%, and 19.02% respectively. *Id.* ¶ 63.

Plaintiffs' expert responded with evidence that Merriman, an analyst, released a statement in March 2010 that it was no longer providing coverage of EGC stock, which demonstrated that an analyst was still watching the stock during this time. Mulcahey Decl. II ¶¶ 155-156. Moreover, there were numerous news stories about EGC during this time, more on average than in the first three years of the Class Period. *Id.* ¶ 159. Plaintiffs' expert also shows that 14 market makers traded between March and May 2010. *Id.* ¶¶ 164-168. Plaintiffs' expert

explains the volatility of the stock identified by Defendants' expert is attributable to the public revelations of the alleged fraud during that time period. *Id.* ¶ 170.

Plaintiffs have also provided unrefuted evidence that EGC's stock price dropped after key revelations during February-May 2010. Specifically, between February 18, 2010, when the SEC suspended trading in EGC stock, and March 5, 2010, when trading resumed, the price of EGC stock dropped from $0.88 per share to $0.44 per share (50% decrease). Mulcahey Decl. I ¶ 161. On March 19, 2010, after EGC announced that it had hired a financial advisor to raise capital funds "to engage legal, accounting and other service providers to review the historical operating and financial performance of EGC and its subsidiaries," the stock price dropped from $0.35 at close of the previous trading day to $0.17 per share at the close of market on March 19 (48.6% decrease). *Id.* ¶¶ 163-164. On May 18, 2010, EGC filed a Form 8-K after the close of market which stated that its financial statements from FY 2006, 2007, and 2008 could no longer be relied upon. The next day, its stock price dropped from $0.12 per share to $0.09 per share (75% decrease). *Id.* ¶¶ 166-168.

Given Plaintiffs' direct evidence of reliance during February and May 2010 and the dearth of precedent for modifying the length of a class period based on failure to meet the *Cammer* factors in certain sub-periods, the Court does not find it appropriate to shorten the class period at this time on the ground that Plaintiffs cannot use the fraud-on-the-market presumption during that three-month period.

2. Defendants Estate of Lord Steinberg and Farrell

Defendants argue that the Class Period should not begin until September 2, 2008 for Defendant Estate of Lord Steinberg and should not begin until October 2, 2008 for Defendant Farrell because, taking the allegations in the TAC as true, Steinberg and Farrell could not have been "control persons" until they joined EGC's board of directors on those dates. TAC ¶¶ 32, 38. Plaintiffs oppose this proposal on the ground that it is legally unprecedented and procedurally impracticable. Reply at 23.

The district court has broad discretion to create subclasses as needed to manage a complex class action, *Am. Timber & Trading Co. v. First Nat. Bank of Oregon*, 690 F.2d 781,

786-87 (9th Cir. 1982), as long as each class and subclass meets the requirements of Rule 23, *Parsons v. Ryan*, 754 F.3d 657, 674 (9th Cir. 2014).

Defendants have cited one case in which a court has created subclasses to account for the fact that one defendant did not become involved in a fraudulent scheme until part way through the class period. *In re Blech Sec. Litig.*, 187 F.R.D. 97, 104 (S.D.N.Y. 1999). This Court is not persuaded by this case that creating subclasses to accommodate Defendants Steinberg and Farrell's later involvement with EGC would be the best way to manage this action. Creating subclasses would create needless confusion when class notice is disseminated. Any concern about determining Defendants Steinberg's and Farrell's proportionate liability as distinguished from other Defendants' liability can be addressed through a well-crafted jury verdict form or through seeking contribution from the other Defendants. *Cf. Glickenhaus & Co. v. Household Int'l, Inc.*, 787 F.3d 408, 428, 428 n.13 (7th Cir. 2015) (discussing proportionate liability and allocation of damages for a control person defendant); *In re Enron Corp. Sec.*, 529 F. Supp. 2d 644, 723 (S.D. Tex. 2006) ("Should the trier of fact in this action determine that a defendant is liable but did not act knowingly, and should the determination of proportionate liability among all wrongdoers so necessitate, the calculation, though it would necessitate extending the trial, should not defeat the class certification.").

IV.Disposition

For the reasons discussed above, the Court GRANTS Plaintiffs' Motion for Class Certification.

DATED: July 31, 2015

David O. Carter

DAVID O. CARTER
UNITED STATES DISTRICT JUDGE

NERA
ECONOMIC CONSULTING

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What Should We Expect When Testing for Price Response to News in Securities Litigation?

By **Dr. David I. Tabak***

Introduction

The frequency with which a stock price is expected to respond to news is an important issue in securities litigation. As one example, price response to news is an important factor in the consideration of market efficiency. If a stock trades in an efficient market, there is generally a presumption, under *Basic Inc. v. Levinson*, 485 U.S. 224, 108 S. Ct. 978, 99 L. Ed. 2d 194 (1988), that investors can rely on the market price of the stock to reflect the effects of any material misrepresentation or omission.

Among the various tests employed to assess market efficiency, whether a stock, or other security, responds to news has emerged as the key consideration. In part, this relates back to the seminal *Cammer v. Bloom* case that set forth five factors that many courts have adopted as part of their consideration of market efficiency. The *Cammer* Court noted, "Finally, it would be helpful to a plaintiff seeking to allege an efficient market to allege empirical facts showing a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price. This, after all, is the essence of an efficient market and the foundation for the fraud on the market theory."[1]

The Proof-By-Example Approach

Following *Cammer*, there has been an evolving history of how experts and lawyers presented empirical facts that might have been deemed to show a cause-and-effect relationship between news and stock-price movements. An initially popular approach might be termed "Proof by Example." In this method, an expert or counsel for plaintiffs would present a handful of days with news followed by a stock-price movement.[2] A serious, and in fact, fatal, problem with this approach is that one would expect to see such results if stock-price movements were completely random and had no average correlation with news events. One can, for example, look at a calendar and provide examples to "demonstrate" that Mondays are correlated with even-numbered days of the month, or that Mondays are correlated with odd-numbered days of the month. Similarly, in most securities-litigation cases, there are likely to be days with news ("news days") associated with large stock-price movements and news days associated with typical or even small stock-price movements. Similarly, we would expect to see days without news ("non-news days") associated with both large and small stock-price movements.

The Proof-by-Example approach was forcefully rebutted in *In re PolyMedica Corp. Securities Litigation*, 453 F. Supp. 2d 260 (D. Mass. 2006). In this case, the expert for plaintiffs presented five days where there was news and what he claimed was an associated stock-price response. The expert for defendants countered with an explanation of the reasoning described above. The court agreed with the defense expert, and found that the plaintiffs' expert's "mere listing of five days on which news was released and which exhibited large price fluctuations proves nothing."[3]

The FDT Test and Its Successes

The failures of the Proof-by-Example approach, at least by practitioners and courts that recognize those failures, raise the question of what a proper alternative should be. In 2004, a law review article (co-authored by the author of this paper) and a submission by an expert for defendants in a securities litigation advocated very similar, if not functionally identical, approaches. "The 'Less Than' Efficient Capital Markets Hypothesis: Requiring More Proof from Plaintiffs in Fraud-on-the-Market Cases" proposed a test that has since been referred to as the "FDT Test."[4] The FDT Test can be conceptualized similarly to a medical study in which a researcher wishes to determine if a drug is effective. To do so, the medical researcher runs a study with two groups. One group, the control group, is either given no drug or is given a placebo, while the other group, the treatment group, is given the drug in question. Results between the two groups are then examined to see if they are different. In the FDT Test, stock-price movements on news days (the treatment group) are compared to stock-price movements on non-news days (the control group) to see if they are different. In particular, the FDT Test runs an event study for each day in the period being examined and then uses the results of those event studies to compare the fraction of news days with a statistically significant stock-price movement to the fraction of non-news days with a statistically significant stock-price movement to see if there is a difference between the two fractions. It further asks whether the difference between the two fractions is itself statistically significant and is higher on news days.[5]

The 2004 case alluded to above is *Lehocky v. Tidel Tech., Inc.*, 220 F.R.D. 491 (S.D. Tex. 2004). In this matter, the court found as follows (emphasis added):

> Plaintiffs' expert[] conducted an event study using Tidel's trading data. He identified two-day periods in which information pertaining to Tidel was released to the public and separated those two day[] [periods] from other two day periods in which there was no public information pertaining to Tidel. The periods were classified into "information" versus "non-information days" …. ***[Plaintiffs' expert] concluded that the price changes on information days versus non-information days was statistically significant, meaning there was a related cause and effect relationship between [a] the release of information pertaining to Tidel and [b] Tidel's stock price. Simply put, [Plaintiffs' expert's] tests indicated that Tidel's stock price reacted within a two day window to news releases concerning Tidel, which indicates market efficiency.***

While the terminology is slightly different, and the focus of plaintiffs' expert in *Tidel* appears to be on price changes, perhaps indicating the magnitude of changes and not merely whether there was a change, the basic concept of employing a statistical comparison of price movements on news days to those on non-news days is similar to the concept behind the FDT Test.

More recently, courts have accepted a number of tests of market efficiency that directly follow the FDT Test procedures, if not citing the FDT paper directly. See the following examples (with all emphases added):

- *Lumen v. Anderson*, No. 08-0514-CV-W-HFS (W.D. Mo. Feb. 10, 2012).

> The expert also concluded ***FCStone's stock was approximately one-and-a-half to two times as likely to experience a change in stock price on days when company-specific news was announced than on days when it was not***. However, for legal purposes, the critical question is whether the price quickly absorbs and reflects news about the company because this is what allows the legal presumption that (1) the price incorporates public information and (2) the investor relied on the price as the repository of that public information. ***[The defendants' expert's] report establishes that when news about the company is made public, the company's stock price immediately incorporates the information***. This is the essence of an efficient market — perhaps not for an economist's purposes, but for purposes of *Basic*.

- *Smilovits v. First Solar, Inc.*, No. CV12-00555-PHX-DGC (D. Ariz. Oct. 8, 2013).

> ***Plaintiffs submit that, overall, statistically significant price moves occurred three times more often on days with relevant news than on days without news***.

Furthermore, the court rejected defendants' expert's conclusion based on a discussion of days when the stock apparently had no significant price change following news because, citing *Lumen*, "there is no comparison to the number of times there were significant price changes following important news."

- *McIntire v. China MediaExpress Holdings, Inc.*, 38 F. Supp. 2d 415 (S.D.N.Y. 2014).

> For that reason, courts have instead endorsed the comparison test that [Plaintiffs' expert] used. See, e.g., *In re Alstom SA Sec. Litig.*, 253 F.R.D. 266, 280 (S.D.N.Y.2008). This test "involves comparing the percentage of days with news that have a statistically significant price movement to the percentage of days without news that have a statistically significant price movement." Paul A. Ferrillo et al., *The "Less Than" Efficient Capital Markets Hypothesis: Requiring More Proof from Plaintiffs in Fraud-on-the-Market Cases*, 78 St. John's L. Rev. 81, 120 (2004). If the stock price is significantly more likely to change on News Days than on Non-News Days, that suggests a causal relationship between material news and the stock price. *Id.*

- *In re Petrobras Securities Litigation*, No. 14-cv-9662 (JSR) (S.D.N.Y. Feb. 2, 2016).

> Both sides refer to [plaintiffs' expert's] methodology as an "FDT" test because use of z-test to evaluate market efficiency was first proposed in a law review article by three well-known securities econometric experts, whose combined initials were "FDT." See Paul A. Ferrillo, Frederick C. Dunbar, and David Tabak, The "Less Than" Efficient Capital Markets Hypothesis: Requiring More Proof from Plaintiffs in Fraud-on-the-Market Cases, 78 St. John's L. Rev. 81, 119-22 (2004). [Defendants' expert] contends that, because the article was not peer-reviewed, a z-test cannot be used to show market efficiency. Were [plaintiffs' expert] using a novel or questionable statistical technique, the Court would place more weight on the absence of peer review. But it is not necessary for every application of a commonly used statistical technique to be peer-reviewed. Indeed, the elegance of statistical methods is that they can be applied to data sets of varying substantive significance, from rates of emphysema to transactions on modern securities markets. Because the Court is convinced that the z-test is a well-established and sound statistical technique, the lack of peer review does not seriously undermine [plaintiffs' expert's] application of the z-test.

Challenges to the FDT Test

Not all cases in which a test to examine the fractions of news and non-news days associated with statistically significant returns was employed by plaintiffs have resulted in a finding of market efficiency. Defendants do have at least two wins with the argument that all or nearly all news dates should be associated with statistically significant returns:

- *In re Federal Home Loan Mortgage Corp.*, No. 09 Civ. 832 (MGC) (S.D.N.Y. Mar. 27, 2012).[6]

> A plaintiff must show that the market price responds to most new, material news.
>
> ...
>
> At his first deposition, [plaintiffs' expert] testified that if new information had been released into the market on each of his initial 28 event days, one could expect to see statistically significant abnormal returns on each of the 28 days in an efficient market. In contrast, [defendants' expert] testified that an economist may conclude that a market is efficient if it reacts to news 80 to 90% of the time, depending on the number of news dates at issue.

- *George v. China Automotive Systems, Inc.*, No. 11 Civ. 7533 (KBF) (S.D.N.Y. July 3, 2013).

> Even assuming that the methodology was proper, showing that only seven out of sixteen days resulted in a market reaction is an insufficient foundation upon which to pronounce market efficiency. (Id. at 100.) (To state the obvious, seven out of sixteen is less than 50%.)

In fact, defendants have frequently argued that some large number of dates with news should be associated with statistically significant stock-price movements.[7] Yet, it is not clear if there is any case in which defendants have cited some empirical or even sound theoretical basis for an argument that there should be some minimum fraction of news days associated with statistically significant returns.

How Often Should Stocks Respond to News in a Statistically Significant Manner?

Theoretical Issues

An easy, though informal, proof of why there is no theoretical basis for an argument that a specific share of news days should be associated with a statistically significant price movement can be made by pointing out that statistical significance is determined at various levels, with the 5% significance level being the most common in financial economics.[8] Assume that under the 5% significance level, some fraction of news days is associated with statistically significant price movements when the series of event studies that form the FDT Test is undertaken. Under another significance level, say the stricter 1% significance level, a different, and smaller, fraction would be associated with statistically significant price movements. In fact, a different fraction would exist for each level of statistical significance (though with a discrete count of days, there could be cases where the fraction would remain constant over ranges of levels of statistical significance until the significance level is increased (reduced) to the point where another day

fails (succeeds) in becoming statistically significant). Thus, there cannot be some constant expected fraction of news days that should be associated with statistically significant price movements in an efficient market, not even 50%, as that fraction would depend on the level of statistical significance being employed.

One can also formally show that the expected fraction of news days that should be associated with statistically significant stock-price movements will depend on (1) the distribution of market-adjusted stock-price movements on news days and (2) the cutoff for determining what size market-adjusted stock-price movement is deemed statistically significant. It is notable that under the standard academic practice of not filtering news days from the period used to estimate the "market model" that provides the parameters for determining whether days are associated with statistically significant stock-price movements, the share of all days that are news days will affect that cutoff. Again, there is no reason for the fraction of news days that should be associated with statistically significant stock-price movements to necessarily be above or below 50%.

Intuitively, one can see at least part of the reason why the fraction of news days associated with statistically significant price movements is indeterminate theoretically by considering that the definition of a news day can differ. So, if one defines a news day as any day with an earnings announcement, we might expect a certain fraction of those news days to be associated with a statistically significant stock-price movement. However, if we define a news day to be one with an earnings surprise (i.e., an earnings announcement where the reported earnings are different from the consensus estimate, often proxied for by the average of earnings estimates provided by analysts), then we might expect the fraction of news days associated with statistically significant returns to be greater. Alternatively, if we have a broader definition of news, such as mentions of the company in any news story, we might expect the fraction of those news days associated with a statistically significant stock-price movement to be lower. There is no theoretical or mathematical/statistical reason to believe that the fraction of news days associated with statistically significant returns should exceed 50% as a general matter in an efficient market.

Academic Literature

Given the lack of a theoretical standard for the fraction of news days that should be associated with statistically significant returns, we might ask if there is any guidance from the academic literature on this subject. There is in fact a long literature on the general inability of news to substantially explain stock-price movements. One seminal article is Richard Roll, "R^2," *Journal of Finance* 43, (1988). The abstract for this paper begins, "Even with hindsight, the ability to explain stock price changes is modest. R^2s were calculated for the returns of large stocks as explained by systematic economic influences, by the returns on other stocks in the same industry, and by public firm-specific news events. The average adjusted R^2 is only about .35 with monthly data and .20 with daily data."

Following Roll's paper, the literature typically focused on how much stock prices move even after accounting for news (e.g., if stock prices tended to move by 10% on news days and 8% on non-news days, one could say that news explained 20% of stock-price movements). However, the typically more relevant question brought forth by plaintiffs and defendants in securities litigations is how often news should elicit a stock-price movement, the measure examined in the FDT Test. There are a few articles that do address this issue directly. One such

paper is Jacob Boudoukh et al., *Which News Moves Stock Prices? A Textual Analysis*, Working Paper No. 18725, National Bureau of Economic Research, October 14, 2013. The authors find that "identified news days are 32.5% more likely to coincide with the bottom and top 10% of return days."[9] That is, while one would expect 20% of news days to be in the bottom and top 10% of returns if price movements were unaffected by news, instead 26.5% (i.e., 20% plus an additional 32.5% of that 20%) of news days are in that group. Recall that the 5% significance level represents the bottom and top 2.5% of the sample. As 26.5% of news days are in the bottom and top 10% of the sample, 26.5% is an upper bound of the percentage of news days that could be in the bottom and top 2.5% of the sample and thus be associated with statistically significant returns at the 5% level.

Next, we turn to John M. Griffin, Nicholas H. Hirschey, Patrick J. Kelly, "How Important Is the Financial Media in Global Markets?" *Review of Financial Studies*, 2011. Chart A on page 3971 of the article shows that if one sorts days by the magnitude of their price movements, with 100 representing the largest movement in absolute magnitude and 0 the smallest, the mean rank for news days in the U.S. is about 57 or 58.[10] That is, rather than all or nearly all of the news days falling in the upper 5% of the distribution (i.e., ranks 95-100), which by definition is the set of statistically significant price movements at the 5% level, the price movement for a "typical" news day is above the midpoint (i.e., a rank of 50) but is not statistically significant (i.e., in ranks 95-100). That is, only news that is well above average in importance to investors should be expected to give rise to a statistically significant price movement.

Both of these papers show that the assumption that half of all news days should be associated with statistically significant returns does not hold in practice, at least for the news, stocks, and time periods covered by these articles.

New Empirical Analyses

We now turn to furthering those analyses. In particular, in this paper, we address the question of what percent of "news days" is associated with a statistically significant stock-price movement.

As a first analysis, we begin with a methodology designed to give a high estimate of the number of events that will be associated with statistically significant returns when the event studies underlying the FDT Test are performed. Our sample is all members of the S&P 500 Index as of December 31, 2015, excluding those that began trading after April 2014. The examination period covers 2010 through 2015 and a news day is defined as an earnings announcement. For each stock, a market model is calculated over each calendar year from 2009 through 2014 using the S&P 500 Index as the explanatory variable, and the parameters and standard error of each market model are used to determine the statistical significance of the stock's daily price movements during the following calendar year.

The events examined are the earnings announcements by each company in the time period examined. To account for the possibility that an earnings announcement came out either before or after the close of trading, and to increase the probability of finding a statistically significant return associated with each earnings announcement, we characterize an earnings announcement as being associated with a statistically significant return if *either* the day of the earnings announcement or the following trading day has a statistically significant

return, or both.[11] As a result, we would not expect merely 5% of news days to be associated with statistically significant returns merely by chance, but (if markets are efficient and price movements on consecutive days are independent), we would expect roughly twice that (in fact, 9.75%) of news days to be associated with a statistically significant price movement.[12] The results are presented in column (1) of Table 1 below, which shows the number of companies in different percentages of statistically significant returns across its earnings announcements.

Table 1. **Excess Returns on Earnings Announcements[1] for 504 Companies in the S&P 500 Index, as of December 31, 2015,[2] over the Period January 4, 2010 through December 31, 2015**

	Daily Returns Predicted Using the S&P 500 Index[3]			
	All Earnings Announcements[4]	Small Earnings Announcements[4]	Medium Earnings Announcements[4]	Large Earnings Announcements[4]
	(1)	(2)	(3)	(4)
***Assuming that there is a significant return if the excess return on the announcement day or the following day is statistically significant at the 5% level*:**				
Total Number of Companies[5,6]	496	487	478	448
Average Number of Earnings Announcements[7]	23.3	10.8	5.0	8.6
***Percent of companies with the percent of earnings announcements with statistically significant returns in the range*:**				
< = 20%	2.0%	8.2%	15.5%	12.9%
> 20% and < = 40%	19.2%	18.5%	21.8%	18.3%
> 40% and < = 60%	45.8%	37.4%	24.9%	33.5%
> 60% and < = 80%	30.8%	25.5%	21.8%	19.6%
> 80% and < = 100%	2.2%	10.5%	16.1%	15.6%
***Percent of earnings announcements with statistically significant returns for the median company*:**				
	54.2%	53.8%	50.0%	50.0%

Notes and Sources:

Price data and dividend data obtained from FactSet Research Systems, Inc.

Returns were adjusted for dividends and the effective trading date of the earnings dates were used.

1 Earnings announcement dates obtained from FactSet Research Systems, Inc.

2 S&P 500 Index constituents, as of December 31, 2015, obtained from Bloomberg, L.P.

3 Company stock price returns for each calendar year are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index over the previous calendar year. Stock price returns on January 4, 2016, are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index, over the period: January 2, 2014, through December 31, 2014.

4 Earnings announcements are classified as "Small," "Medium," or "Large" based on the absolute value of the I/B/E/S amount earnings-per-share (EPS) surprise reported divided by the company stock price on the report date. "Small" events have an absolute EPS surprise of less than or equal to 0.075% of the closing price on the report date, "Medium" events have an absolute EPS surprise greater than 0.075% of the closing price on the report date but less than or equal to 0.15% of the closing price on the report date, and "Large" events have an absolute EPS surprise greater than 0.15% of the closing price on the report date. EPS surprises are calculated from the mean I/B/E/S EPS estimate for that earnings report.

5 The following companies were excluded from the analyses in columns (1) to (4) because their shares began trading publicly after April 2014: CSRA, Inc., Hewlett Packard Enterprise Co., Synchrony Financial, Alphabet, Inc. (class C shares), Navient Corp., PayPal Holdings, Inc., Columbia Pipeline Group, Inc., and Baxalta, Inc. In addition, News Corp. was excluded from the analyses in columns (2) to (4) because of an inability to locate I/B/E/S EPS surprise data for 2010-2015.

6 Values in this row represent the total number of companies with at least one earnings day of the type indicated in columns (1) to (4).

7 Calculated for only companies with at least one earnings day of the given type.

A number of results are apparent from Table 1 and the data underlying that table. First, it is rarely the case that all or nearly all of the earnings announcements are associated with statistically significant returns. Even allowing for two opportunities to find a statistically significant return (on either the day of or the trading day following the earnings announcement, as discussed above) for each earnings announcement, only 2.2% of S&P 500 companies have more than 80% of their earnings announcements associated with statistically significant returns.[13]

For the median S&P 500 company, 54.2% of its earnings announcements were associated with statistically significant returns, again allowing for two opportunities to find a statistically significant return. Thus, the argument that even a majority of news announcements should be associated with statistically significant returns would not hold for approximately half of the members of the S&P 500 under this set of parameters.

Next, we refine this analysis by dividing the earnings announcements, or surprise, into "Small," "Medium," and "Large" categories by comparing the actual earnings figure to the consensus estimate from I/B/E/S.[14] If the earnings surprise divided by the stock's closing price on the earnings report date yields a figure of at most 0.075%, the earnings announcement is defined to be Small; if the earnings surprise comes in more than 0.075%, but within 0.15%, of the closing price on the report date, the earnings announcement is defined to be Medium; and if earnings surprise come in more than 0.15% from the closing price on the report date, the earnings announcement is defined to be Large.[15] Columns (2) through (4) of Table 1 show the percent of Small, Medium, and Large earnings announcements that are associated with statistically significant returns.

As seen in Table 1, when we define news days to include only one of the categories of earnings announcements, we still find fewer than 17% of S&P 500 companies have a proportion of news days to be associated with statistically significant returns that exceeds 80%, with both the Medium and Large categories coming in between 15% and 17%.[16]

In Table 2, we replicate Table 1 but add an industry index for each market model. In particular, we add the SPDR Sector ETF corresponding to each company's GICS Sector Code. As seen in the table, the results do not change substantially from what we observe in Table 1, though more earnings-announcement dates tend to be associated with statistically significant returns (e.g., if we examine Medium and Large earnings surprises, 18.6% and 16.5% of companies for the two categories, respectively, have at least 80% of the announcements dates associated with a statistically significant return.)

For our last set of analyses of earnings announcements for S&P 500 companies, we examine whether the price movements for the Small, Medium, and Large earnings announcements are in the direction one would expect based solely on the direction of the earnings surprise.[17] This expands upon the results from the two academic papers discussed above, neither of which imposes a directionality requirement on the returns. The results are shown in Table 3.

Table 2. **Excess Returns on Earnings Announcements[1] for 504 Companies in the S&P 500 Index, as of December 31, 2015,[2] over the Period January 4, 2010 through December 31, 2015**

	Daily Returns Predicted Using the S&P 500 Index and SPDR Sector ETFs[3]			
	All Earnings Announcements[4]	Small Earnings Announcements[4]	Medium Earnings Announcements[4]	Large Earnings Announcements[4]
	(1)	(2)	(3)	(4)
***Assuming that there is a significant return if the excess return on the announcement day or the following day is statistically significant at the 5% level*:**				
Total Number of Companies[5,6]	496	487	478	448
Average Number of Earnings Announcements[7]	23.3	10.8	5.0	8.6
***Percent of companies with the percent of earnings announcements with statistically significant returns in the range*:**				
< = 20%	1.6%	6.8%	14.2%	10.9%
> 20% and < = 40%	16.9%	18.5%	19.5%	19.4%
> 40% and < = 60%	46.4%	36.8%	24.3%	29.7%
> 60% and < = 80%	32.3%	27.1%	23.4%	23.4%
> 80% and < = 100%	2.8%	10.9%	18.6%	16.5%
***Percent of earnings announcements with statistically significant returns for the median company*:**				
	54.2%	55.0%	52.3%	53.8%

Notes and Sources:

Price data and dividend data obtained from FactSet Research Systems, Inc.

Returns were adjusted for dividends and the effective trading date of the earnings dates were used.

1 Earnings announcement dates obtained from FactSet Research Systems, Inc.

2 S&P 500 Index constituents, as of December 31, 2015, obtained from Bloomberg, L.P.

3 Company stock price returns for each calendar year are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index and the SPDR Sector ETF corresponding to the company's GICS Sector Code, over the previous calendar year. Stock price returns on January 4, 2016, are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index and the SPDR Sector ETF corresponding to the company's GICS Sector Code, over the period: January 2, 2014, through December 31, 2014. The SPDR Technology Sector ETF (ticker: "XLK") was used for companies with the GICS codes 45 (Information Technology) and 50 (Telecommunication Services).

4 Earnings announcements are classified as "Small," "Medium," or "Large" based on the absolute value of the I/B/E/S amount earnings-per-share (EPS) surprise reported divided by the company stock price on the report date. "Small" events have an absolute EPS surprise of less than or equal to 0.075% of the closing price on the report date, "Medium" events have an absolute EPS surprise greater than 0.075% of the closing price on the report date but less than or equal to 0.15% of the closing price on the report date, and "Large" events have an absolute EPS surprise greater than 0.15% of the closing price on the report date. EPS surprises are calculated from the mean I/B/E/S EPS estimate for that earnings report.

5 The following companies were excluded from the analyses in columns (1) to (4) because their shares began trading publicly after April 2014: CSRA, Inc., Hewlett Packard Enterprise Co., Synchrony Financial, Alphabet, Inc. (class C shares), Navient Corp., PayPal Holdings, Inc., Columbia Pipeline Group, Inc., and Baxalta, Inc. In addition, News Corp. was excluded from the analyses in columns (2) to (4) because of an inability to locate I/B/E/S EPS surprise data for 2010-2015.

6 Values in this row represent the total number of companies with at least one earnings day of the type indicated in columns (1) to (4).

7 Calculated for only companies with at least one earnings day of the given type.

Table 3. **Excess Returns on Earnings Announcements[1] for 504 Companies in the S&P 500 Index, as of December 31, 2015,[2] over the Period January 4, 2010 through December 31, 2015**

	Daily Returns Predicted Using the S&P 500 Index and SPDR Sector ETFs[3]			
	All Non-Zero Earnings Announcements[4]	Small Non-Zero Earnings Announcements[4]	Medium Earnings Announcements[4]	Large Earnings Announcements[4]
	(1)	(2)	(3)	(4)
***Assuming that there is a significant return if the excess return on the announcement day or the following day is statistically significant at the 5% level and is in the same direction as the earnings news*:**				
Total Number of Companies[5,6]	495	487	478	448
Average Number of Earnings Announcements[7]	23.1	10.7	5.0	8.6
***Percent of companies with the percent of earnings announcements with statistically significant returns in the range*:**				
< = 20%	9.1%	30.2%	27.6%	19.4%
> 20% and < = 40%	48.9%	40.0%	32.0%	30.4%
> 40% and < = 60%	38.4%	23.0%	22.2%	27.2%
> 60% and < = 80%	3.4%	3.9%	11.1%	11.8%
> 80% and < = 100%	0.2%	2.9%	7.1%	11.2%
***Percent of earnings announcements with statistically significant returns for the median company*:**				
	37.5%	31.3%	33.3%	41.0%

Notes and Sources:

Price data and dividend data obtained from FactSet Research Systems, Inc.

Returns were adjusted for dividends and the effective trading date of the earnings dates were used.

1 Earnings announcement dates obtained from FactSet Research Systems, Inc.

2 S&P 500 Index constituents, as of December 31, 2015, obtained from Bloomberg, L.P.

3 Company stock price returns for each calendar year are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index and the SPDR Sector ETF corresponding to the company's GICS Sector Code over the previous calendar year. Stock price returns on January 4, 2016, are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index and the SPDR Sector ETF corresponding to the company's GICS Sector Code, over the period: January 2, 2014, through December 31, 2014. The SPDR Technology Sector ETF (ticker: "XLK") was used for companies with the GICS codes 45 (Information Technology) and 50 (Telecommunication Services).

4 Earnings announcements where the EPS reported was exactly the same as the mean EPS estimate are excluded. Earnings announcements are classified as "Small," "Medium," or "Large" based on the absolute value of the I/B/E/S amount earnings-per-share (EPS) surprise reported divided by the company stock price on the report date. "Small" events have an absolute EPS surprise of less than or equal to 0.075% of the closing price of the stock on the report date. "Medium" events have an absolute EPS surprise greater than 0.075% of the closing stock price on the report date but less than or equal to 0.15% of the company price on the report date, and "Large" events have an absolute EPS surprise greater than 0.15% of the closing price on the report date. EPS surprises are calculated from the mean I/B/E/S EPS estimate for that earnings report.

5 The following companies were excluded from the analyses in columns (1) to (4) because their shares began trading publicly after April 2014: CSRA, Inc., Hewlett Packard Enterprise Co., Synchrony Financial, Alphabet, Inc. (class C shares), Navient Corp., PayPal Holdings, Inc., Columbia Pipeline Group, Inc., and Baxalta, Inc. In addition, News Corp. was excluded from the analyses in columns (2) to (4) because of an inability to locate I/B/E/S EPS surprise data for 2010-2015.

6 Values in this row represent the total number of companies with at least one earnings day of the type indicated in columns (1) to (4).

7 Calculated for only companies with at least one earnings day of the given type.

The results are similar to those in Table 2, but with the additional restriction that to qualify as a statistically significant result, the price movement has to be in the same direction of the earnings surprise, reducing the number of announcements that are considered to be associated with a statistically significant price movement. There are (at least) three theoretical reasons for this. *First*, some of the difference may be due to noise, in which a day with, say, a positive earnings announcement should engender a positive price movement, but due to a large negative degree of noise, the price movement is actually negative and statistically significant. However, this cannot reasonably be expected to explain the full difference in the tables. In particular, since we are using the 5% significance level, we would expect to obtain a statistically significant price movement in the "incorrect" direction either (1) if the movement is in the "incorrect" direction on the first day but not in the "correct" direction on the second, or (2) neither in the "correct" nor "incorrect" direction on the first day, but in the "incorrect" direction on the second day. Consequently, there is a 4.8125% chance of finding a statistically significant movement in the "incorrect" direction.[18] *Second*, it could be the case that the direction of an earnings surprise presents an incorrect view of the net effect of the announcement. For example, suppose that a company announced that earnings unexpectedly fell 5% this quarter because the company is spending on expanding production such that earnings will be up by 20% for several quarters. If one just looked at the current earnings figures, this would seem to be a negative announcement. Yet, the market might easily view this news as positive on net. *Third*, the consensus expectation for earnings may be incorrect because some analysts had not updated their analysis prior to the earnings announcement or had highly idiosyncratic views that skewed the average estimate.

Because earnings announcements are not days with no news, our expectations for price movements in the "incorrect" direction are lower than those above. As a simple measure, we remove those announcements with statistically significant movements in the "correct" direction and assume that 4.8125% of the remaining earnings announcements should have a movement in the "incorrect" direction merely by chance. Table 4 then shows the expected percentage of earnings announcements with movements in the "incorrect" direction, using the market model including the industry adjustment. In Table 4, we see that when looking at the S&P 500 Index, there is a notable fraction of earnings announcements with statistically significant price movements in the "incorrect" direction, with 17.2% of all responses to non-zero earnings announcements across all S&P 500 companies appearing to be in the "incorrect" direction compared to 36.7% in the "correct" direction. Notably, the ratio of "incorrect" to "correct" movements tends to fall as we move from Small to Medium to Large earnings announcements, suggesting that the overall news content of announcements with larger earnings surprises more closely aligns with the direction of the earnings surprise than is true for announcements with smaller earnings surprises. This suggests that caution is required in interpreting the overall direction of a news announcement relative to market expectations.[19]

Table 4. **Excess Returns on Earnings Announcements[1], Considering Directionality for 504 Companies in the S&P 500 Index, as of December 31, 2015,[2] over the Period January 4, 2010 through December 31, 2015**

	Daily Returns Predicted Using the S&P 500 Index and SPDR Sector ETFs[3]			
	All Non-Zero Earnings Announcements[4]	Small Non-Zero Earnings Announcements[4]	Medium Earnings Announcements[4]	Large Earnings Announcements[4]
	(1)	(2)	(3)	(4)
***Assuming that there is a significant return if the excess return on the announcement day or the following day is statistically significant at the 5% level and is in the same direction as the earnings news*:**				
Total Number of Companies[5,6]	495	487	478	448
Average Number of Earnings Announcements[7]	23.1	10.7	5.0	8.6
***Assuming that a "correct" movement is a statistically significant return on that day or the following day and in the same direction as the earnings announcement, and assuming that an "incorrect" movement is a statistically significant return in the opposite direction of the earnings news*:**				
Percent of Earnings Announcements with a Correct Movement	36.7%	33.1%	38.4%	40.5%
Expected Percentage of Earnings Announcements with an Incorrect Movement[8]	3.0%	3.2%	3.0%	2.9%
Observed Percentage of Earnings Announcements with an Incorrect Movement[9]	17.2%	22.1%	16.1%	11.2%
Excess Percentage of Earnings Announcements with an Incorrect Movement	14.1%	18.9%	13.1%	8.4%
***Excess percentage of earnings announcements with an "incorrect" movement for the median company*:**				
	13.7%	21.0%	15.7%	10.0%

Notes and Sources:

Price data and dividend data obtained from FactSet Research Systems, Inc.

Returns were adjusted for dividends and the effective trading date of the earnings dates were used

1 Earnings announcement dates obtained from FactSet Research Systems, Inc

2 S&P 500 Index constituents, as of December 31, 2015, obtained from Bloomberg, L.P.

3 Company stock price returns for each calendar year are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index and the SPDR Sector ETF corresponding to the company's GICS Sector Code over the previous calendar year. Stock price returns on January 4, 2016, are predicted by regressing the daily logarithmic returns of the company's stock on the daily logarithmic returns of the S&P 500 Index and the SPDR Sector ETF corresponding to the company's GICS Sector Code, over the period January 2, 2014, through December 31, 2014. The SPDR Technology Sector ETF (ticker "XLK") was used for companies with the GICS codes 45 (Information Technology) and 50 (Telecommunication Services).

4 Earnings announcements where the EPS reported was exactly the same as the mean EPS estimate are excluded. Earnings announcements are classified as "Small," "Medium," or "Large" based on the absolute value of the I/B/E/S amount earnings-per-share (EPS) surprise reported divided by the company stock price on the report date. "Small" events have an absolute EPS surprise of less than or equal to 0.075% of the closing price of the stock on the report date. "Medium" events have an absolute EPS surprise greater than 0.075% of the closing stock price on the report date but less than or equal to 0.15% of the company price on the report date, and "Large" events have an absolute EPS surprise greater than 0.15% of the closing price on the report date. EPS surprises are calculated from the mean I/B/E/S EPS estimate for that earnings report.

5 The following companies were excluded from the analyses in columns (1) to (4) because their shares began trading publicly after April 2014: CSRA, Inc., Hewlett Packard Enterprise Co., Synchrony Financial, Alphabet, Inc. (class C shares), Navient Corp., PayPal Holdings, Inc., Columbia Pipeline Group, Inc., and Baxalta, Inc. In addition, News Corp. was excluded from the analyses in columns (2) to (4) because of an inability to locate I/B/E/S EPS surprise data for 2010-2015.

6 Values in this row represent the total number of companies with at least one earnings day of the type indicated in columns (1) to (4).

7 Calculated for only companies with at least one earnings day of the given type.

8 Expected Percentage is calculated by multiplying the probability of a statistically significant movement in the wrong direction by chance (4.8125%, calculated as $0.025 * [0.95 + 0.975]$) by the percent of announcements that did not have a "correct" movement.

9 Calculated as the difference in percent of earnings announcements with a statistically significant movement when the direction of the movement does not matter and the percentage of earnings days with a statistically significant movement when the movement must be in the same direction as the earnings news.

Conclusion

As has been well-documented in the academic literature, a large share of stock-price movements cannot be substantially explained by identifiable news events. The analyses in this paper examine a similar question, considering the fraction of news events that are associated with statistically significant stock-price movements for individual companies when the traditional event-study methodology is employed. The results show that when we examine large companies and events that should be material to investors, such as relatively large earnings surprises, only about half of those news announcements are associated with a statistically significant stock-price movement. Notably, this result holds even though we allow for two chances (the day of the news announcement and the following trading day) to find a statistically significant price movement.

While these results are not surprising given the prior academic literature, they do suggest that one should be careful in setting *a priori* expectations about how frequently one would expect a stock price to respond to what may appear to be material news. If "material" were defined with a very high bar, one would still presumably expect that most such material news would be associated with a statistically significant price movement for stocks that trade in efficient markets, though that bar might be reasonably high. Thus, assumed absolute standards about how frequently stocks that trade in efficient markets should respond to news in a statistically significant manner ignore both theoretical issues with such assumptions and empirical evidence.

Finally, we also see that one should be careful about assuming that the direction of a price movement can always be easily inferred from a casual, or potentially even a careful, reading of news. When examining earnings announcements, we see more statistically significant price movements in the opposite direction of the earnings surprise than we would expect by chance alone. This indicates that there may be additional information in earnings announcements beyond just the overall surprise in the reported results, or that we have not properly understood what market expectations were before the announcement. Again, the message is that one should be careful in setting *a priori* expectations about the frequency and direction of how one would expect a stock price to respond to what might appear to be material new information.

References

* Senior Vice President, NERA Economic Consulting. I thank Marcia Kramer Mayer and Jordan Milev for comments and Stefan Boettrich, Kyle Monk, John Shymansky, Shadman Torofder, and Ashutosh Venkatraman for their contributions to the analysis. I also note that my colleagues at NERA and I have been involved in some of the cases discussed in this paper.

1 *Cammer v. Bloom*, 711 F. Supp. 1264, 1287 (D.N.J. 1989).

2 See, for example, *In re Accredo Health, Inc. Securities Litigation*, 2006 WL 1716910 (W.D.Tenn.) ("As to the fifth [*Cammer*] factor, plaintiffs offer the declaration of its expert, [ ], who opines that 'material new information resulted in an immediate response in Accredo's stock price.' [Plaintiff's expert] Decl. ¶ 28. [Plaintiff's expert] describes one example[.]") and *In re The Mills Corp. Securities Litigation*, 257 F.R.D. 101 (E.D. Va. 2009) [2009 BL 82258] ("A finding of market efficiency for the preferred shares is further supported by the considerable price drop in Mills preferred stock on August 11, 2006."). In these cases, the reference to a single example of a stock-price movement is the only basis given for satisfying the fifth *Cammer* factor (i.e., price response to new information).

3 *In re PolyMedica Corp. Securities Litigation*, 453 F. Supp. 2d 260, 270 (D. Mass. 2006).

4 Paul A. Ferrillo, Frederick C. Dunbar, and David Tabak, "The 'Less Than' Efficient Capital Markets Hypothesis: Requiring More Proof from Plaintiffs in Fraud-on-the-Market Cases," 78 *St. John's L. Rev.* 81, 119-22 (2004).

5 This is the standard form of the FDT Test. One can also compare the magnitude of the stock-price movements on the two types of days, for example. Different versions of the test might all point to the same conclusion regarding price response to news for the same stock over the same time period, though that need not be the case. The standard form of the FDT Test, looking at the fractions of news and non-news days with statistically significant stock-price responses to news, is well-suited for determinations relevant to securities litigation because it is more directly aimed at the binary question of whether a stock price responds to news. In particular, the FDT Test examines whether any stock-price response is above the threshold for statistical significance, a result that has often been taken in securities litigation to correspond to the binary question of whether investors should have been able to rely on the price of the stock to reflect public information. An additional consideration is that examinations of the magnitude of a stock-price response may be heavily driven by a few very large movements that raise the average price response to news and may not be indicative of how the stock price would respond to typical news or to news of lesser importance. This would be particularly problematic if, contrary to proper statistical technique, the event ending the class period is included in the test and if the combination of a news event and large stock-price movement following that event was part of the reason why the litigation was brought (i.e., there would be a selection-bias issue in including such a day as a news event, as its inclusion would have been driven, at least in part, by the fact that there was an associated stock-price movement). Still, a combination of various tests will typically be helpful in either validating or challenging the broader applicability of a single test.

6 It is worth noting that after apparently making numerous errors in his initial report, the expert for plaintiffs first cited to the FDT article in a second report. The court discounted this, stating, "Furthermore, I question [the expert]'s use of these tests for the first time in a second and inconsistent event study."

7 See, for example, *Första AP-Fonden v. St. Jude Medical, Inc.*, Civil No. 12-3070 (JNE/HB) (D. Minn. Dec. 22, 2015) ("[Defendants] point out, for example, that one iteration of [Plaintiffs' expert's] comparative analysis showed that SJM stock responded to news in a statistically significant amount only 36.4% of the time."). The court found that the stock did trade in an efficient market.

8 See, for example, the *Reference Guide on Statistics in the Reference Manual of Scientific Evidence*, Third Edition, Federal Judicial Center, 2011, p. 251 ("In practice, statistical analysts typically use levels of 5% and 1%. The 5% level is the most common in social science, and an analyst who speaks of sig-nificant results without specifying the threshold probably is using this figure." Internal footnote omitted.)

9 The authors "break down all news articles into either 'unidentified news' or an '*identified news*' category based on whether the article can be tied to a set of relevant events (broken down into 14 categories and 56 subcategories). ... Moreover, these 158 thousand stock-days are narrowed down further to stock-days defined as 'complex', either by number of articles, number of events or disagreement in tone across articles." (p.3) The finding of more than just a chance number of news days associated with statistically significant returns "is much more pronounced for identified news days associated with one of our three measures of complexity, i.e., multiple articles, multiple events or disagreement across articles. Respectively, these days are 82.2%, 78.3% and 89.2% more likely to coincide with extreme returns days." That is, 36.44%, 35.66%, and 37.84% of the three types of "complex" news days, respectively, are associated with the bottom and top 20% of stock-price returns.

News is identified as "all documents that pass through the Dow Jones Newswire from January 1, 2000 to December 31, 2009. For computational reasons, we limit ourselves to the S&P500 companies (with at least 40 days of available data)." (p. 11)

10 The authors employ the Factiva database and "identify news for a firm using full-text searches for the firm's name in the headline or lead paragraph of articles." (p. 3948)

References

[11] Due to the large dataset, we do not investigate whether news came out before or after the close of the market for each event. However, if the news event occurred before the close of trading on the announcement day, then a price movement solely on the following day would generally not be taken as an indication of market efficiency.

[12] There would be a 95% chance of not having a statistically significant return on any day if we were considering chance alone. Thus, the probability of not having a statistically significant return on two consecutive days is 95% × 95%, or 90.25%, meaning that there is a 9.75% chance of having a statistically significant return on at least one of two consecutive days due solely to chance.

[13] Column (1) of Table 1 shows the fraction of S&P 500 companies that have different percentages of their earnings announcements associated with statistically significant returns. For example, 2.0% of the companies have up to 20% of their earnings announcements associated with a statistically significant return while an additional 19.2% of S&P 500 companies have between 20% and 40% of their earnings announcements associated with a statistically significant return. The sum of the five entries in the middle block of the column will add to 100%, with any apparent discrepancy due to rounding.

[14] I/B/E/S, the Institutional Brokers' Estimate System, is a commonly used data provider that collects, among other information, analyst earnings estimates and calculates an average or consensus estimate that can be compared to later-reported earnings. As earnings surprises are on a continuum, the Small, Medium, and Large categories are, of course, set by arbitrary cutoffs solely for the purposes of exposition.

[15] Here, we effectively assume that most earnings announcements are made after the close on the report date. An alternative analysis that measures the earnings as a percent of the stock price the day before the announcement yields similar results. In addition, alternative analyses that look at the absolute magnitude of the earnings surprise in cents per share and others that use the S&P SmallCap 600 Index instead of the S&P 500 index also yield similar results to the main analyses in this paper. Results of alternative analyses are available from the author upon request.

[16] One might be surprised that the percent of companies with more than 80% of news days having statistically significant returns is higher for all three categories of earnings announcements (i.e., 10.5%, 16.1%, and 15.6% for Small, Medium, and Large earnings announcements) than for earnings announcements overall (2.2%). A similar result is seen with the percent of companies with no more than 20% of news days being associated with statistically significant returns. These results are because there are fewer Small, Medium, or Large earnings announcements than total earnings announcements, and with fewer announcements, there are more likely to be companies with very few Small, Medium, or Large earnings announcements, making it easier for them to have, for example, either 0% or 100% of those announcements be associated with statistically significant returns.

[17] Note that here, we replace Small earnings announcements with Small Non-Zero earnings announcements.

[18] This is calculated as the probability of (1) above (2.5% × 97.5%) plus the probability of (2) above (95% × 2.5%). Note that if there is both a "correct" and an "incorrect" movement on the two days, the return is classified as being in the "correct" direction overall.

[19] This is even more likely to be relevant in situations where explicit expectations do not exist. For example, if a company is sued for securities fraud several days after it made an announcement that caused its stock to fall, the market may consider the filing of a securities-fraud lawsuit to be highly likely. In such a situation, the actual filing could of course be negative news, but could also be positive news if the scope of the lawsuit (e.g., the time period covered) is less than expected by the market.

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